APPENDIX H

Tnu and SEC Surveys

APPENDIX H-1

SEC SURVEY DATA

The following two surveys were used as verification surveys for the sump and drainlines in the Area 12 stairwell:

Survey No. 129RS97-0225	Bldg. 14/Area 12 sump floor and walls
Survey No. 129RS97-0226	Bldg. 14/Area 12 sump floor and walls

APPENDIX H-2

TNu SURVEY DATA

The following delineation and verification surveys were used by TNu to support the remedial action performed in Area 20A-East in 1996.

Survey No. 129DT032	Building 14, drainpipe
Survey No.129DT033	Building 14 floors, trench
Survey No. 12900457	Building 14, trench
Survey No. 12900467	Building 14, trench
Survey No. 12900468	Building 14, floors
Survey No. 12900479	Building 14, overheads
Survey No. 12900480	Building 14, walls

ET-SNY97-0197-129

DEC 04 1997

FUSRAP DATA TRANSMITTAL

TO:
BECHTEL NATIONAL, INC.
FUSRAP PROJECT ENGINEERING MANAGER
ATTN: LABORATORY LIAISON
C/O FUSRAP PDCC
151 LAFAYETTE DRIVE
OAK RIDGE, TN 37830

MAIL ADDRESS:
P.O. BOX 350
OAK RIDGE, TN 37831-0350

FROM:
SEC
151 LAFAYETTE DRIVE
P.O. BOX 350
OAK RIDGE, TN 37830

14501-191-SC-550

LAB NO. _____
WORK ORDER NO. SNY 97-0197
DATE: 10/9/97
SITE/WBS NO: 129
AREA: LINDE/
DATA CODE: RA-SURV

ITEM NO:	DESCRIPTION
	129 RA 970225 Building 14 Area 12 SUMP PUMP
	129 RA 970226 Building 14 Area 12 SUMP PUMP. PREVIOUS ELEVATED SPOTS

SUPPLIER DOCUMENT STATUS STAMP		REVIEW COMMENTS
BECHTEL NATIONAL, INC.	FUSRAP 14501-191-SC-550	(B14, Area 12, Sump Pump) THIS AREA HAS BE RELEASED BY THE IVC.

1 ☐ DATA PACKAGE IS ACCEPTABLE
2 ☐ REVISE AND RESUBMIT:
☐ ENTIRE PACKAGE
☐ APPLICABLE SECTIONS: _____
☐ EDD
3 ☐ REVIEW NOT REQUIRED.

REVIEWED BY:

DMVS			DM
		ET. SM/SA	

REVIEWED BY _____ DATE _____

1. General Information

Survey No 97-0225 Page # 1 of 5

Date 9.23.97 Electronic File No. 12901740

Site/ WBS No.: LINDE/129

Tech(s): C. Siemons

2. Item Surveyed: Bldg 14 Area 12 Sump Pump

3. Release Limits

Radiological Contaminants: Uhat

Action Limits: Removable: 1,000dpm/100cm² Total: 5,000dpm/100cm²

Other:

Ref:

4. Survey BKG and Methods of Determination

Background established at location of survey. Background was referenced to file in H.P. office in Bldg 31

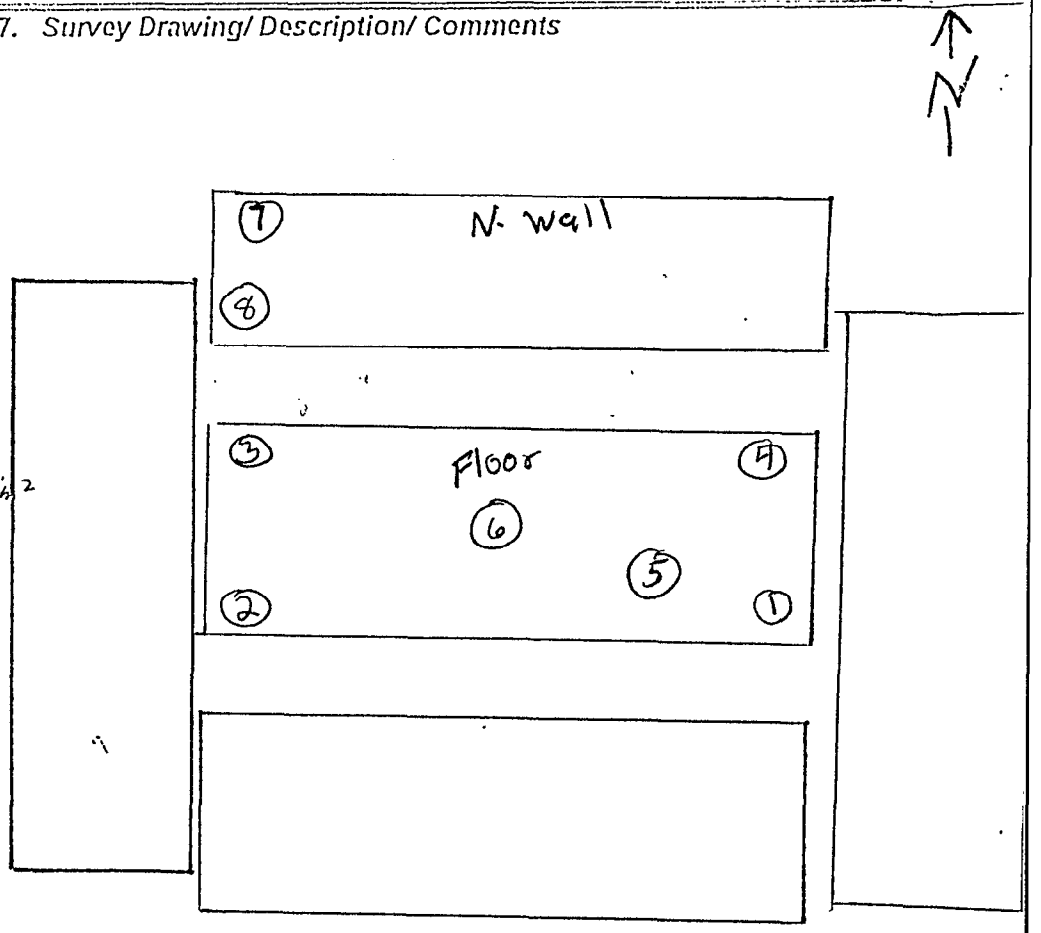
5. Survey Type/ Data Codes

- [ ] Routine Surveys (HS-MISC)
  - [ ] Uncontrolled Area
  - [ ] Controlled Area
  - [ ] Sample Release to:
- [ ] Equipment/Materials (HS-EQIP) Release to:
- [ ] CH-SURV
- [ ] RA-SURV

6 INSTRUMENTATION

#	Scaler W/ Detector	S/N w/ S/N	CAL DUE w/ CAL DUE
1	L-2221 / 44-9	S10294 / S7927	5.29.98 / 7.7.98
2	L-2221 / 43-10	S6986 / S6995	6.18.98 / 6.18.98
3	ms-2 / HT-210	S7575 / S7958	4.10.98 / 4.9.98
4			
5			

7. Survey Drawing/ Description/ Comments



Area was too wet to take counts with ~~D~~ α. Took smears at every point. Entire Area was 100% Bγ scanned

SSHR Review: [signature] Date: 10-8-97

RSSS Review: [signature] Date: 10.8.97

FUSRAP Survey Data Sheet

JA-RO-051-F2

Survey No. 129RS97-0225 Page 2 of 5

Date 9/23/97 Site/ WBS No. LINDE\129

Survey Tech(s): SLEMONS, C. Count Rm Tech SLEMONS, C.

Comments: BLDG. 14 AREA 12 SUMP PUMP
AREA WAS TOO WET TO TAKE COUNTS ALPHA. TOOK SMEARS AT EVERY POINT.
ENTIRE AREA WAS 100% BETA/GAMMA SCANNED.

Notes:

Instr. No. = See Survey Coversheet
x = Corr. Coefficient
Yint = Y Intercept
E = eff = cpm/dpm
ACF = Area Correction Factor
t_B = Background Count Time
t_S = Sample Count Time
R_b = Bkgd count rate
**Bcpm = Background cpm = R_b
** Background determination criteria is found on the survey cover sheet

dose rt (*u*rem) = Direct Reading Instr.
Gamma (cptm)
corr *u*rem (*u*rem) = (cptm)(x) + Yint.

Direct

Alpha (dpm) = (cpm - Bcpm)/(eff * ACF)
Beta (dpm) = (cpm - Bcpm)/(eff * ACF)

Removable

Alpha (dpm) = (cpm - Bcpm)/ eff
Beta (dpm) = (cpm - Bcpm)/ eff

* dpm readings are per 100cm^2

Parameters	dose rate	Gamma	Corr *uR*	Total Alpha	Total Beta-Gamma	Removable Alpha	Removable Beta-Gamma
Instr. No.					#1 L2221 S10294	#2 L2221 S6986	#3 MS-2 S7575
x							
Yint							
E					0.27	0.311	0.23
BKG** / *Bcpm* **					44	0.36	39.9
ACF					0.155		
t_B					1	50	50
t_S					1	1	1
L_c					368.7	3.21	45.63
MDC					809.2	16.06	104.30

No.	Descriptions	x	y	z	urem/uR	cptm	uR	cpm	*dpm	cpm	*dpm	cpm	*dpm	cpm	*dpm
1	FLOOR									170	3010.75	12	37.43	80	174.35
2	FLOOR									72	669.06	4	11.70	56	70.00
3	FLOOR									116	1720.43	9	27.78	64	104.78
4	FLOOR									81	884.11	3	8.49	47	30.87
5	FLOOR									294	5973.72	8	24.57	61	91.74
6	FLOOR									160	2771.80	1	2.06	40	0.43
7	WALL									54	238.95	0	-1.16	42	9.13
8	WALL									172	3058.54	2	5.27	35	-21.30

$$L_c = \frac{1.645\sqrt{R_b \cdot t_s(1 + t_s / t_B)}}{E * t_s * ACF}$$

$$MDC = \frac{3 + 3.29\sqrt{R_b \cdot t_s(1 + t_s / t_B)}}{E * t_s * ACF}$$

RSSS: DMD (INI) SSHR: (INI)

1. General Information

Survey No _____ Page # 3 of 5

Date 9.23.97 Electronic File No. _____

Site/ WBS No.: 4100E/129

Tech(s): C. Clemons

2. Item Surveyed Bldg 14 Area 12

Sump Pump

3. Release Limits

Radiological Contaminants: Unat

Action Limits: Removable: 1,000dpm/100cm² Total: 5,000dpm/100cm²

Other: _____

Ref: _____

4. Survey BKG and Methods of Determination

BACKGROUND ESTABLISHED AT LOCATION OF SURVEY. BACKGROUND WAS REFERENCED TO FILE IN H.P. OFFICE IN BLDG-31

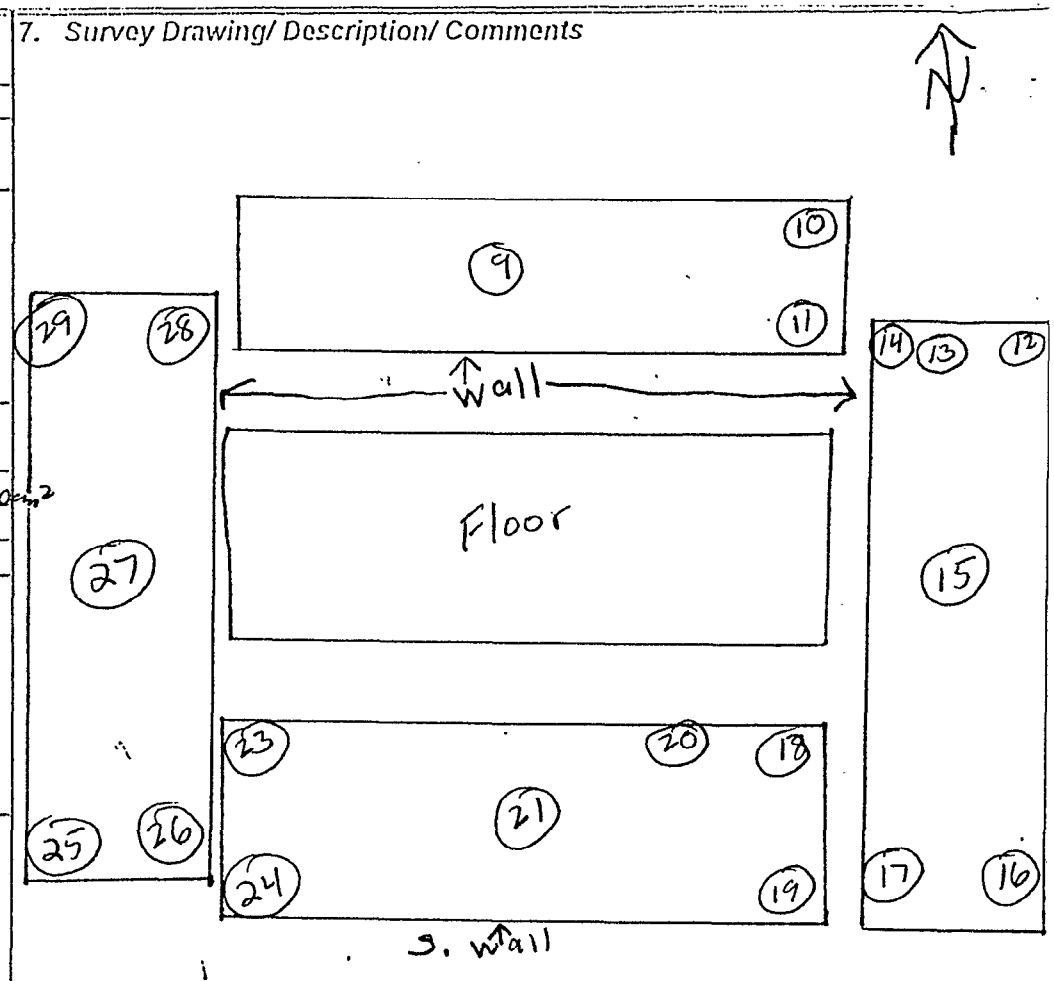
5. Survey Type/ Data Codes

- ☐ Routine Surveys (HS-MISC)
  - ☐ Uncontrolled Area
  - ☐ Controlled Area
  - ☐ Sample Release to: _____
- ☐ Equipment/Materials (HS-EQIP) Release to: _____
- ☐ CH-SURV
- ☐ RA-SURV

6 INSTRUMENTATION

#	Scaler W/ Detector	S/N w/ S/N	CAL DUE w/ CAL DUE
1	L-2221/44-9	S6926/S9994	3.19.98/10.1.97
2	L-2221/43-10	S6986/S6995	6.18.98/6.18.98
3	MS-2/HP-210	S7575/S7958	4.10.98/4.9.98
4			
5			

7. Survey Drawing/ Description/ Comments



Area WAS TOO WET TO USE ~~a~~ DMP meter. Took smears at every point. Scanned Area 100% with B γ detector.

SSHR Review: [signature] Date: 10-8-97

RSSS Review: [signature] Date: 10.8.97

FUSRAP Survey Data Sheet

JA-RO-051-F2

Survey No. 129RS97-0225 Page 4 of 5

Date 9/23/97 Site/ WBS No. LINDE\129

Survey Tech(s): SLEMONS, C. Count Rm Tech SLEMONS, C.

Comments: BLDG. 14 AREA 12 SUMP PUMP
AREA WAS TOO WET TO TAKE COUNTS ALPHA. TOOK SMEARS AT EVERY POINT.
ENTIRE AREA WAS 100% BETA/GAMMA SCANNED.

Notes:

Instr. No. = See Survey Coversheet
x = Corr. Coefficient
Yint = Y Intercept
E = eff = cpm/dpm
ACF = Area Correction Factor
t_B = Background Count Time
t_S = Sample Count Time
R_b = Bkgd count rate
**Bcpm = Background cpm = R_b
** Background determination criteria is found on the survey cover sheet

dose rt (urem) = Direct Reading Instr.
Gamma (cptm)
corr urem (urem) = (cptm)(x) + Yint.

Direct

Alpha (dpm) = (cpm - Bcpm)/(eff * ACF)
Beta (dpm) = (cpm - Bcpm)/(eff * ACF)

Removable

Alpha (dpm) = (cpm - Bcpm)/ eff
Beta (dpm) = (cpm - Bcpm)/ eff

* dpm readings are per 100cm²

Parameters	dose rate	Gamma	Corr uR	Total Alpha	Total Beta-Gamma	Removable Alpha	Removable Beta-Gamma
Instr. No.					#1 L2221 S10294	#2 L2221 S6986	#3 MS-2 S7575
x							
Yint							
E					0.22	0.311	0.23
BKG** / Bcpm**					45	0.36	39.9
ACF					0.155		
t_B					1	50	50
t_S					1	1	1
L_c					457.6	3.21	45.63
MDC					1003.3	16.06	104.30

No.	Descriptions	x	y	z	urem/uR	cptm	uR	cpm	*dpm	cpm	*dpm	cpm	*dpm	cpm	*dpm
9	WALL									313	7859.24	2	5.27	37	-12.61
10	WALL									71	762.46	3	8.49	45	22.17
11	WALL									91	1348.97	1	2.06	48	35.22
12	WALL									58	381.23	2	5.27	41	4.78
13	WALL									287	7096.77	3	8.49	52	52.61
14	WALL									103	1700.88	1	2.06	44	17.83
15	WALL									42	-87.98	2	5.27	54	61.30
16	WALL									248	5953.08	1	2.06	55	65.65
17	WALL									200	4545.45	6	18.14	57	74.35
18	WALL									154	3196.48	3	8.49	36	-16.96
19	WALL									176	3841.64	7	21.35	45	22.17
20	WALL									333	8445.75	4	11.70	55	65.65
21	WALL									99	1583.58	2	5.27	40	0.43
22	QC #21									95	1466.28	1	2.06	41	4.78
23	WALL									90	1319.65	3	8.49	42	9.13
24	WALL									91	1348.97	1	2.06	33	-30.00
25	WALL									99	1583.58	0	-1.16	22	-77.83
26	WALL									167	3577.71	1	2.06	47	30.87
27	WALL									48	87.98	1	2.06	42	9.13

$$L_c = \frac{1.645\sqrt{R_b \cdot t_s(1 + t_s / t_B)}}{E * t_s * ACF}$$

$$MDC = \frac{3 + 3.29\sqrt{R_b \cdot t_s(1 + t_s / t_B)}}{E * t_s * ACF}$$

RSSS: DMD (INI) SSHR: (INI)

FUSRAP Survey Data Sheet

Survey No. ____ 129RS97-0225 Page 5 of 5

Technician(s): SLEMONS, C. Count Rm Tech SLEMONS, C.

Comments: BLDG 14 AREA 12 SUMP PUMP

								Total				Removable			
No.	Descriptions	x	y	z	urem/uR	cptm	uR	cpm	*dpm	cpm	*dpm	cpm	*dpm	cpm	*dpm
28	WALL									180	3958.94	0	-1.16	38	-8.26
29	WALL									49	117.30	0	-1.16	40	0.43
30	QC #29									50	146.63	3	8.49	37	-12.61

$L_c = \frac{1.645\sqrt{R_b \cdot t_s(1 + t_s / t_B)}}{E * t_s * ACF}$

$MDC = \frac{3 + 3.29\sqrt{R_b \cdot t_s(1 + t_s / t_B)}}{E * t_s * ACF}$

RSSS: DMD (INI) SSHR: (INI)

Date 9-23-97 Site/ WBS No. LINDE/129

Survey Tech(s): C. Slemons Count Rm Tech. C. Slemons

Notes:

Instr. No. = See Survey Coversheet

x = Corr. Coefficient

Yint = Y Intercept

E = eff = cpm/dpm

ACF = Area Correction Factor

t_B = Background Count Time

t_S = Sample Count Time

R_b = Bkgd count rate

**Bcpm = Background cpm = R_b

** Background determination criteria is found on the survey cover sheet

dose rt (urem) = Direct Reading Instr.

Gamma (cplm)

corr urem (urem) = (cplm)(x) + Yint.

Direct

Alpha (dpm) = (cpm - Bcpm)/(eff * ACF)

Beta (dpm) = (cpm - Bcpm)/(eff * ACF)

Removable

Alpha (dpm) = (cpm - Bcpm)/ eff

Beta (dpm) = (cpm - Bcpm)/ eff

* dpm readings are per 100cm²

Parameters	dose rate	Gamma	Corr uR	Total Alpha	Total Beta-Gamma	Removable Alpha	Removable Beta-Gamma
Instr. No.					#1	#2	#3
x							
Yint							
E					0.27	0.311	0.23
BKG** / Bcpm**					44	0.36	39.9
ACF					0.155	1	1
t_B					1 min	50 min	50 min
t_S					1 min	1 min	1 min
L_c					368.7	0.635	9.04
MDC					809.2	10.92	31.11

No.	Descriptions	x	y	z	uremVuR	cplm	uR	Total cpm	Total *dpm	Total Beta-Gamma cpm	Total Beta-Gamma *dpm	Removable Alpha cpm	Removable Alpha *dpm	Removable Beta-Gamma cpm	Removable Beta-Gamma *dpm
1	Floor									170		12		80	
2	Floor									72		4		56	
3	Floor									116		9		64	
4	Floor									81		3		47	
5	Floor									294		8		61	
6	Floor									160		1		40	
7	Wall									54		0		42	
8	Wall									172		2		35	

$$L_c = \frac{1.645\sqrt{R_b \cdot t_s(1 + t_s / t_B)}}{E * t_s * ACF}$$

$$MDC = \frac{3 + 3.29\sqrt{R_b \cdot t_s(1 + t_s / t_B)}}{E * t_s * ACF}$$

RSSS: _____ (INI) SSHR: _____ (INI)

Date 9.23.97 Site/ WBS No. _____

Survey Tech(s): C.Sleimons Count Rm Tech. C.Slemons

Notes:

Instr. No. = See Survey Coversheet

x = Corr. Coefficient

Yint = Y Intercept

E = eff = cpm/dpm

ACF = Area Correction Factor

t_n = Background Count Time

t_s = Sample Count Time

R_b = Bkgd count rate

**Bcpm = Background cpm = R_b

** Background determination criteria is found on the survey cover sheet

dose rt (urem) = Direct Reading Instr.

Gamma (cplm)

corr urem (urem) = (cplm)(x) + Yint.

Direct

Alpha (dpm) = (cpm - Bcpm)/(eff * ACF)

Beta (dpm) = (cpm - Bcpm)/(eff * ACF)

Removable

Alpha (dpm) = (cpm - Bcpm)/ eff

Beta (dpm) = (cpm - Bcpm)/ eff

* dpm readings are per 100cm²

Parameters	dose rate	Gamma	Corr uR	Total Alpha	Total Beta-Gamma	Removable Alpha	Removable Beta-Gamma
Instr. No.					#1	#2	#3
x							
Yint							
E					0.22	0.311	0.23
BKG** / Bcpm**					45	0.36	39.9
ACF					0.155		
t_n					1 min	50 min	50 min
t_s					1 min	1 min	1 min
L_c					368.7	0.635	9.04
MDC					809.2	10.92	31.1

No.	Descriptions	x	y	z	uremAvuR	cplm	uR	cpm	*dpm	cpm	*dpm	cpm	*dpm	cpm	*dpm
9	Wall									313		2		37	
10										71		3		45	
11										91		1		48	
12										58		2		41	
13										287		3		52	
14										103		1		44	
15										42		2		54	
16										248		1		55	
17										200		6		57	
18										154		3		36	
19										176		7		45	
20										333		4		55	
21										99		2		40	
22	QC#21									95		1		47	
23	Wall									90		3		42	
24										91		1		33	
25										99		0		22	
26										167		1		47	
27										48		1		42	

$$L_c = \frac{1.645\sqrt{R_b \cdot t_s(1 + t_s / t_b)}}{E * t_s * ACF}$$

$$MDC = \frac{3 + 3.29\sqrt{R_b \cdot t_s(1 + t_s / t_b)}}{E * t_s * ACF}$$

RSSS: _____ (INI) SSHR: _____ (INI)

FUSRAP Survey Data Sheet

Survey No. _____ Page 5 of 5

Technician(s) C. Slemons Count Rm Tech. C. Slemons

Comments:

No.	Descriptions	x	y	z	uremVuR	cptm	uR	Total cpm	Total *dpm	Total cpm	Total *dpm	Removable cpm	Removable *dpm	Removable cpm	Removable *dpm
28	Wall									180		0		38	
29	Wall									49		0		40	
30	QC #28									50		3		37	

$L_c = \frac{1.645\sqrt{R_b \cdot t_s(1 + t_s / t_b)}}{E * t_s * ACF}$

$MDC = \frac{3 + 3.29\sqrt{R_b \cdot t_s(1 + t_s / t_b)}}{E * t_s * ACF}$

RSSS: _____ (INI) SSHR: _____ (INI)

FUSRAP Survey Cover Sheet

JA-RO-051-F1

1. General Information

Survey No 97-0226 Page # 1 of 2

Date 9.24.97 Electronic File No. 12901741

Site/ WBS No.: LIN05/129

Tech(s): C. Clemons

2. Item Surveyed Bldg 14 Area 12 Sump pump

Previous elevated spots

3. Release Limits

Radiological Contaminants: U nat

Action Limits: Removable: 1000 dpm/100cm² Total: 5000 dpm/100cm²

Other:

Ref:

4. Survey BKG and Methods of Determination

BACKGROUND ESTABLISHED ESTABLISHED AT LOCATION OF SURVEY. BACKGROUND WAS REFERENCED TO file in H.P. OFFICE, Bldg 31.

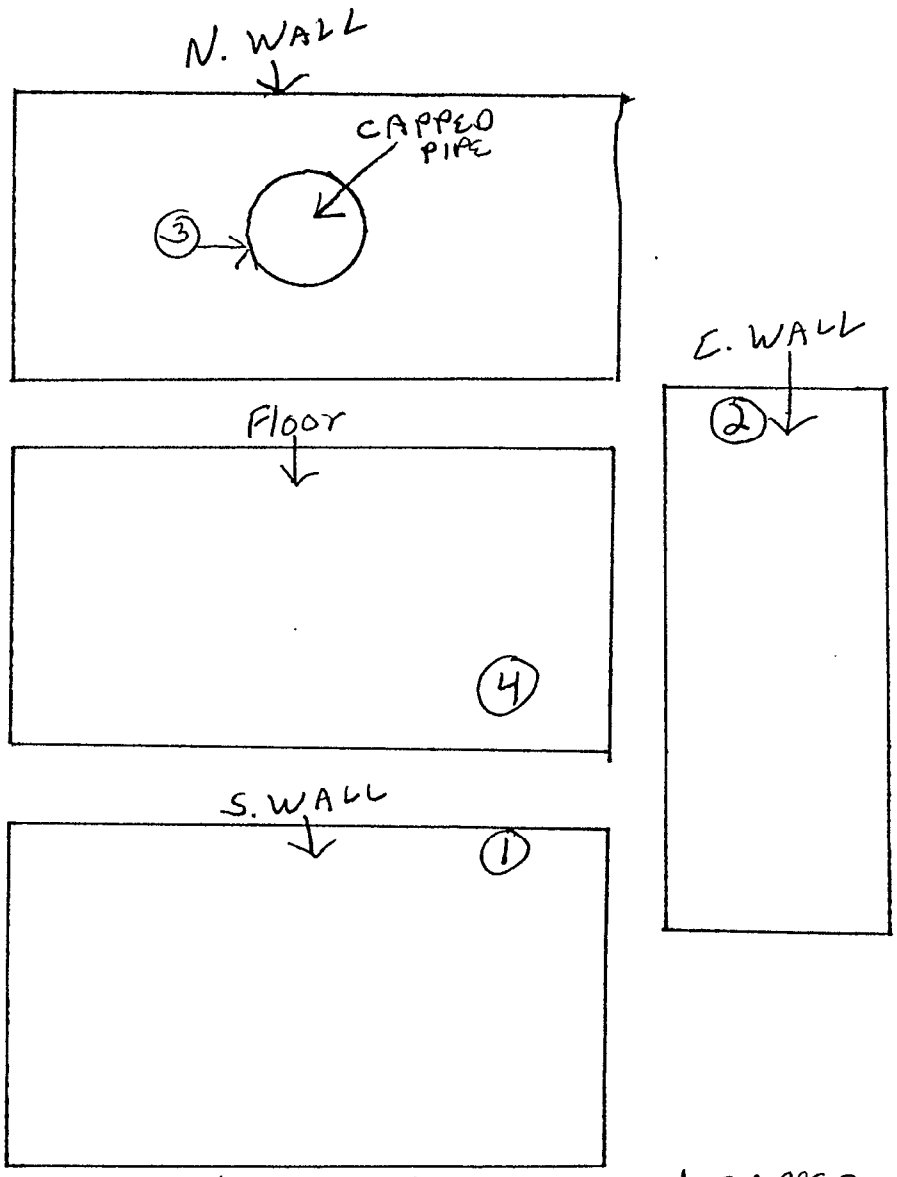
5. Survey Type/ Data Codes

- [ ] Routine Surveys (HS-MISC)
  - [ ] Uncontrolled Area
  - [ ] Controlled Area
  - [ ] Sample Release to:
- [ ] Equipment/Materials (HS-EQIP) Release to:
- [ ] CH-SURV
- [ ] RA-SURV

6 INSTRUMENTATION

#	Scaler W/ Detector	S/N w/ S/N	CAL DUE w/ CAL DUE
1	L-2221/P6M	510294/57764	5.29.98/1.15.98
2	L-2000/43-10	56986/56995	6.18.98/6.18.98
3	ms-2/HP-210	57575/57958	4.10.98/4.9.98
4			
5			

7. Survey Drawing/ Description/ Comments



Area has been released and downposted. CAPPED pipe leading behind N. WALL WILL BE DEALT WITH AT A LATER DATE.

SSHR Review: Date: 10-8-97

RSSS Review: Date: 10.8.97

FUSRAP Survey Data Sheet

JA-RO-051-F2

Survey No. _____ Page 1 of 2

Date 9.24.97 Site/ WBS No. Linde/129

Survey Tech(s): C. Stemons Count Rm Tech. C. Stemons

Comments: ~~X~~ Area was too wet for ~~X~~ readings, smears were taken instead. Area was B γ scanned prior to 1 min. counts.

Notes:

Instr. No = See Survey Coversheet	dose rt (urem) = Direct Reading Instr.
r = Corr. Coefficient	Gamma (cpm)
Yint = Y Intercept	corr urem (urem) = (cpm)(x) + Yint.
E = eff = cpm/dpm	**Direct**
ACF = Area Correction Factor	Alpha (dpm) = (cpm - Bcpm)/(eff * ACF)
t_B = Background Count Time	Beta (dpm) = (cpm - Bcpm)/(eff * ACF)
t_S = Sample Count Time	**Removable**
R_b = Bkgd count rate	Alpha (dpm) = (cpm - Bcpm)/ eff
"Bcpm = Background cpm = R_b	Beta (dpm) = (cpm - Bcpm)/ eff
* Background determination criteria is found on the survey cover sheet	* dpm readings are per 100cm²

Parameters	dose rate	Gamma	Corr uR	Total Alpha	Total Beta-Gamma	Removable Alpha	Removable Beta-Gamma
Instr. No.				~~X~~	#1	#2	#3
x							
Yint							
E					0.236	0.311	0.238
BKG** Bcpm**					42	0.4	43
ACF					0.155		
t_B					1 min	50 min	50 min
t_S					1 min	1 min	1 min
L_c					412	0.669	9.06
MDC					906	10.98	30.7

No	Descriptions	x	y	z	urem/uR	cpm	uR	Total Alpha cpm	Total Alpha *dpm	Total Beta-Gamma cpm	Total Beta-Gamma *dpm	Removable Alpha cpm	Removable Alpha *dpm	Removable Beta-Gamma cpm	Removable Beta-Gamma *dpm
1	S. WALL									74		2		40	
2	E. WALL									187		1		39	
3	N. WALL CAPPED PIPE									513		0		37	
4	FLOOR									112		4		49	

$$L_c = \frac{1.645\sqrt{R_b \cdot t_s(1 + t_s / t_B)}}{E * t_s * ACF} \qquad MDC = \frac{3 + 3.29\sqrt{R_b \cdot t_s(1 + t_s / t_B)}}{E * t_s * ACF}$$

RSSS: _____ (INI) SSHR: _____ (INI)

APPENDIX H-2

TNu SURVEY DATA

The following delineation and verification surveys were used by TNu to support the remedial action performed in Area 20A-East in 1996.

Survey No. 129DT032	Building 14, drainpipe
Survey No.129DT033	Building 14 floors, trench
Survey No. 12900457	Building 14, trench
Survey No. 12900467	Building 14, trench
Survey No. 12900468	Building 14, floors
Survey No. 12900479	Building 14, overheads
Survey No. 12900480	Building 14, walls

Direct Surface and Transferable Contamination Survey

Comments: *QC #20 PIPE, PROBE FACI... ON., HORIZONTAL READINGS AT 1 FT. INCREMTS, UNABLE TO TAKE ALPHA NOR SMEA... PI V 1.9

Reference No.:	12900975.XLS
Survey No.:	129DT032
Data Code:	CH-SURV
Grid ID:	AREA 20A EAST-F
Area:	BLDG. 14
Survey By:	K. TESCH
Survey Date:	10/17/96
Smears Counted By:	
Smear Count Date:	

	DIRECT SURFACE		TRANSFERABLE CONTAMINATION	
Surveyor Sign:				
	Alpha	Beta-Gamma	Alpha	Beta-Gamma
Scaler Model:		Ludlum 2221		
Serial No.:		S9970		
Detector:		LUDLUM 44-9		
Serial No.:		S9141		
Cal Due Date:		03/14/97		
Bkgd CPM:		53.0		
Efficiency:		0.23		
Area Cor Fact:		0.155	N/A	N/A
Bkgd CT Time:		1		
Smpl CT Time:		1		
Lc (DPM):		477		

No.	Description	E (x)	N (y)	Ht. (z)	Field Notes	Gross CPM	Smpl DPM*	STD DEV	Gross CPM	Smpl DPM*	STD DEV	Gross CPM	Smpl DPM*	STD DEV	Gross CPM	Smpl DPM*	STD DEV
1	PIPE			0	*				337.0	7966	1086						
2	PIPE			1 FT.	*				334.0	7882	1082						
3	PIPE			2 FT.	*				243.0	5330	946						
4	PIPE			3 FT.	*				288.0	6592	1015						
5	PIPE			4 FT.	*				322.0	7546	1065						
6	PIPE			5 FT.	*				325.0	7630	1069						
7	PIPE			6 FT.	*				441.0	10884	1222						
8	PIPE			7 FT.	*				654.0	16858	1462						
9	PIPE			8 FT.	*				809.0	21206	1614						
10	PIPE			9 FT.	*				383.0	9257	1148						
11	PIPE			10 FT.	*				1354.0	36494	2062						
12	PIPE			11 FT.	*				897.0	23675	1695						
13	PIPE			12 FT.	*				1518.0	41094	2179						
14	PIPE			13 FT	*				858.0	22581	1659						
15	PIPE			14 FT.	*				1355.0	36522	2063						
16	PIPE			15 FT.	*				1070.0	28527	1842						
17	PIPE			16 FT.	*				751.0	19579	1559						
18	PIPE			17 FT.	*				386.0	9341	1152						
19	PIPE			18 FT.	*				1008.0	26788	1791						
20	PIPE			19 FT.	*				103.0	1403	687						
21	QC PIPE			19 FT.	*				99.0	1290	678						

Data Entered By and Date: Linda Tescher 10-17-96

Reviewed By and Date(RSSS): [signature] 10-17-96

Reviewed By and Date (ORPO): [signature] 11/8/96

FUSRAP Form X-17 (08/19/96)
*DPM units per 100 cm2

U-2745

Direct Surface and Transferable Contamination Survey

Comments: *QC #20 PIPE, PROBE FAC[illegible]ON., HORIZONTAL READINGS AT 1 FT. INCREMTS, UNABLE TO TAKE ALPHA NOR SME[illegible]N PI V 1.9

Reference No.:	12900975.XLS
Survey No.:	129DT032
Data Code:	CH-SURV
Grid ID:	AREA 20A EAST-F
Area:	BLDG. 14
Survey By:	K. TESCH
Survey Date:	10/17/96
Smears Counted By:	
Smear Count Date:	

	DIRECT SURFACE			TRANSFERABLE CONTAMINATION		
Surveyor Sign:						
	Alpha		Beta-Gamma	Alpha		Beta-Gamma
Scaler Model:			Ludlum 2221			
Serial No.:			S9970			
Detector:			LUDLUM 44-9			
Serial No.:			S9141			
Cal Due Date:			03/14/97			
Bkgd CPM:			53.0			
Efficiency:			0.23			
Area Cor Fact:			0.155	N/A		N/A
Bkgd CT Time:			1			
Smpl CT Time:			1			
Lc (DPM):			477			

No.	Description	E (x)	N (y)	Ht. (z)	Field Notes	Gross CPM	Smpl DPM*	STD DEV	Gross CPM	Smpl DPM*	STD DEV	Gross CPM	Smpl DPM*	STD DEV	Gross CPM	Smpl DPM*	STD DEV
22	PIPE			20 FT.	*				91.0	1066	660						
23	PIPE			21 FT.	*				60.0	<Lc 196	584						
24	PIPE			22 FT.	*				67.0	<Lc 393	602						

Data Entered By and Date: [signature] 10.17.96

Reviewed By and Date(RSSS): [signature] 10.17.96 Reviewed By and Date (ORPO): _____

FUSRAP Form X-17 (08/19/96)
*DPM units per 100 cm2

Direct Surface and Transferable Contamination Survey

V 1.9

Comments: PROBE ~~FACTOR~~ GKT 10/17/96 FACEING DOWN. HORIZONTAL READINGS AT 1 FOOT INCREMENTS - UNABLE TO TAKE ALPHA NOR SMEARS IN PIPE.

Reference No.:	12900975.XLS
Survey No.:	129DT032
Data Code:	CH-SURV
Grid ID:	BLDG 14
Area:	AREA 20A, EAST (10.17.96 LRD)
Survey By:	K. Tesch
Survey Date:	10/17/96
Smears Counted By:	
Smear Count Date:	

	DIRECT SURFACE		TRANSFERABLE CONTAMINATION	
Surveyor Sign:	Karl D. Tesch		Surveyor Sign:	
	Alpha	Beta-Gamma	Alpha	Beta-Gamma
Scaler Model:	N/A	Ludlum - 2221	N/A	N/A
Serial No.:		59970		
Detector:		Ludlum 44-9		
Serial No.:		59141		
Cal Due Date:		3/14/97		
Bkgd CPM:		53		
F Efficiency:		0.23		
Area Cor Fact:		0.155	N/A	N/A
Bkgd CT Time:		1		
Smpl CT Time:		1		
Lc (DPM):				

No.	Description	E (x)	N (y)	Ht (z) depth	10/17/96 Field Notes	DIRECT SURFACE Alpha Gross CPM	Alpha Smpl DPM*	Alpha STD DEV	DIRECT SURFACE Beta-Gamma Gross CPM	Beta-Gamma Smpl DPM*	Beta-Gamma STD DEV	TRANSFERABLE CONTAMINATION Alpha Gross CPM	Alpha Smpl DPM*	Alpha STD DEV	TRANSFERABLE CONTAMINATION Beta-Gamma Gross CPM	Beta-Gamma Smpl DPM*	Beta-Gamma STD DEV
1	PIPE			0	*	NA			337								
2	"			1 Ft					334								
3				2 Ft					243								
4				3 Ft					288								
5				4 Ft					322								
6				5 Ft					325								
7				6 Ft					441								
8				7 Ft					654								
9				8 Ft					809								
10				9 Ft					383								
11				10 Ft					1354								
12				11 Ft					897								
13				12 Ft					1518								
14				13 Ft					858								
15				14 Ft					1355								
16				15 Ft					1070								
17				16 Ft					751								
18				17 Ft					386								
19				18 Ft					1008								
20				19 Ft					103								
21	QC #20			19 Ft					99								

Data Entered By and Date: _____

FUSRAP Form X-17 (08/19/96)
*DPM units per 100 cm2

Direct Surface and Transferable Contamination Survey

V 1.9

Comments: Probe down Horizontal Readings At 1 Ft Increments- Unable to take Alpha Nor Smears in Pipe

Reference No.:	129009175.XLS
Survey No.:	129DT032
Data Code:	CH-SURV
10-17-96 Grid ID:	BLDG 14
Area:	AREA 20 A EAST
Survey By:	K. Tesch 10/17/96
Survey Date:	K. Tesch
Smears Counted By:	
Smear Count Date:	depth

	DIRECT SURFACE		TRANSFERABLE CONTAMINATION	
Surveyor Sign:	Karl D. Odell		Surveyor Sign:	
	Alpha	Beta-Gamma	Alpha	Beta-Gamma
Scaler Model:	N/A	Ludlum - 2221	N/A	N/A
Serial No.:		59970		
Detector:		Ludlum 44-9		
Serial No.:		59141		
Cal Due Date:		3/14/97		
Bkgd CPM:		53		
Efficiency:		0.23		
Area Cor Fact:		0.155	N/A	N/A
Bkgd CT Time:		1		
Smpl CT Time:		1		
Lc (DPM):				

No.	Description	E (x)	N (y)	Ht (z)	10/17/96 Field Notes	DIRECT SURFACE Alpha Gross CPM	Alpha Smpl DPM*	Alpha STD DEV	Beta-Gamma Gross CPM	Beta-Gamma Smpl DPM*	Beta-Gamma STD DEV	TRANSFERABLE CONTAMINATION Alpha Gross CPM	Alpha Smpl DPM*	Alpha STD DEV	Beta-Gamma Gross CPM	Beta-Gamma Smpl DPM*	Beta-Gamma STD DEV
22	PIPE			20 Ft	*	N/A			91								
23	"			21 Ft					60								
24	"			22 Ft					67								
NA																	

Data Entered By and Date: _____

FUSRAP Form X-17 (08/19/96)
*DPM units per 100 cm2

Direct Surface and Transferable Contamination Survey

Comments: *QC #20 PIPE, PROBE FACING UP, HORIZONTAL READINGS AT 1 FT. INCREMTS, UNABLE TO TAKE ALPHA NOR SMEAR OF PIP V 1.9

D-2745

Reference No.:	12900976.XLS
Survey No.:	129DT032
Data Code:	CH-SURV
Grid ID:	AREA 20A EAST-F
Area:	BLDG. 14
Survey By:	K. TESCH
Survey Date:	10/17/96
Smears Counted By:	
Smear Count Date:	

	DIRECT SURFACE		TRANSFERABLE CONTAMINATION	
Surveyor Sign:				
	Alpha	Beta-Gamma	Alpha	Beta-Gamma
Scaler Model:		Ludlum 2221		
Serial No.:		S9970		
Detector:		LUDLUM 44-9		
Serial No.:		S9141		
Cal Due Date:		03/14/97		
Bkgd CPM:		53.0		
Efficiency:		0.23		
Area Cor Fact:		0.155	N/A	N/A
Bkgd CT Time:		1		
Smpl CT Time:		1		
Lc (DPM):		477		

No.	Description	E (x)	N (y)	Ht. (z)	Field Notes	Direct Surface Alpha Gross CPM	Direct Surface Alpha Smpl DPM*	Direct Surface Alpha STD DEV	Direct Surface Beta-Gamma Gross CPM	Direct Surface Beta-Gamma Smpl DPM*	Direct Surface Beta-Gamma STD DEV	Transferable Contamination Alpha Gross CPM	Transferable Contamination Alpha Smpl DPM*	Transferable Contamination Alpha STD DEV	Transferable Contamination Beta-Gamma Gross CPM	Transferable Contamination Beta-Gamma Smpl DPM*	Transferable Contamination Beta-Gamma STD DEV
1	PIPE			0	*				77.0	673	627						
2	PIPE			1 FT.	*				111.0	1627	704						
3	PIPE			2 FT.	*				86.0	926	648						
4	PIPE			3 FT.	*				94.0	1150	667						
5	PIPE			4 FT.	*				68.0	<Lc 421	605						
6	PIPE			5 FT.	*				69.0	<Lc 449	607						
7	PIPE			6 FT.	*				63.0	<Lc 281	592						
8	PIPE			7 FT.	*				67.0	<Lc 393	602						
9	PIPE			8 FT.	*				81.0	785	636						
10	PIPE			9 FT.	*				86.0	926	648						
11	PIPE			10 FT.	*				82.0	813	639						
12	PIPE			11 FT.	*				90.0	1038	657						
13	PIPE			12 FT.	*				80.0	757	634						
14	PIPE			13 FT	*				103.0	1403	687						
15	PIPE			14 FT.	*				105.0	1459	691						
16	PIPE			15 FT.	*				102.0	1374	684						
17	PIPE			16 FT.	*				92.0	1094	662						
18	PIPE			17 FT.	*				96.0	1206	671						
19	PIPE			18 FT.	*				85.0	898	646						
20	PIPE			19 FT.	*				42.0	<Lc -309	536						
21	QC PIPE			19 FT.	*				46.0	<Lc -196	547						

Data Entered By and Date: Linda Tenorio 10-17-96

Reviewed By and Date(RSSS): [signature] 10.17.96 Reviewed By and Date (ORPO): [signature] 11/18/96

FUSRAP Form X-17 (08/19/96)
*DPM units per 100 cm2

Direct Surface and Transferable Contamination Survey

Comments: *QC #20 PIPE, PROBE FACE UP, HORIZONTAL READINGS AT 1 FT. INCREMTS, UNABLE TO TAKE ALPHA NOR SMEARS/PIP V 1.9

Reference No.:	12900976.XLS
Survey No.:	129DT032
Data Code:	CH-SURV
Grid ID:	AREA 20A EAST-F
Area:	BLDG. 14
Survey By:	K. TESCH
Survey Date:	10/17/96
Smears Counted By:	
Smear Count Date:	

	DIRECT SURFACE			TRANSFERABLE CONTAMINATION		
Surveyor Sign:						
	Alpha	Beta-Gamma		Alpha	Beta-Gamma	
Scaler Model:		Ludlum 2221				
Serial No.:		S9970				
Detector:		LUDLUM 44-9				
Serial No.:		S9141				
Cal Due Date:		03/14/97				
Bkgd CPM:		53.0				
Efficiency:		0.23				
Area Cor Fact:		0.155		N/A	N/A	
Bkgd CT Time:		1				
Smpl CT Time:		1				
Lc (DPM):		477				

No.	Description	E (x)	N (y)	Ht. (z)	Field Notes	Gross CPM	Smpl DPM*	STD DEV	Gross CPM	Smpl DPM*	STD DEV	Gross CPM	Smpl DPM*	STD DEV	Gross CPM	Smpl DPM*	STD DEV
22	PIPE			20 FT.	*				54.0	<Lc 28	569						
23	PIPE			21 FT.	*				75.0	617	622						
24	PIPE			22 FT.	*				67.0	<Lc 393	602						

Data Entered By and Date: 10/17/96

Reviewed By and Date(RSSS): 10/17/96

Reviewed By and Date (ORPO): 11/8/96

FUSRAP Form X-17 (08/19/96)
*DPM units per 100 cm2

Direct Surface and Transferable Contamination Survey

V 1.9

Comments: Horizontal Probe up
Readings in 1 ft increments. Unable to take Alpha nor smears in Pipe.

Reference No.:	1290096 VLS
Survey No.:	1290T032
Data Code:	CH-SURV
Grid ID:	BLDG 14 (UM 10/7/96)
Area:	AREA 20 A EAST
Survey By:	M. Tesch
Survey Date:	10/7/96
Smears Counted By:	
Smear Count Date:	

	DIRECT SURFACE		TRANSFERABLE CONTAMINATION	
Surveyor Sign:	Karl D. Leach		Surveyor Sign:	
	Alpha	Beta-Gamma	Alpha	Beta-Gamma
Scaler Model:	N/A	Ludlum-2221	N/A	N/A
Serial No.:		59970		
Detector:		Ludlum 44-9		
Serial No.:		59141		
Cal Due Date:		3/14/97		
Bkgd CPM:		53		
Efficiency:		0.23		
Area Cor Fact:		0.155	N/A	N/A
Bkgd CT Time:		1		
Smpl CT Time:		1		
Lc (DPM):				

No.	Description	E (x)	N (y)	Ht (z) depth	Field Notes	DIRECT SURFACE Alpha Gross CPM	Alpha Smpl DPM*	Alpha STD DEV	Beta-Gamma Gross CPM	Beta-Gamma Smpl DPM*	Beta-Gamma STD DEV	TRANSFERABLE CONTAMINATION Alpha Gross CPM	Alpha Smpl DPM*	Alpha STD DEV	Beta-Gamma Gross CPM	Beta-Gamma Smpl DPM*	Beta-Gamma STD DEV
1	Pipe			0	*				77								
2	"			1 Ft					111								
3				2 Ft					86								
4				3 Ft					94								
5				4 Ft					68								
6				5 Ft					69								
7				6 Ft					63								
8				7 Ft					67								
9				8 Ft					81								
10				9 Ft					86								
11				10 Ft					82								
12				11 Ft					90								
13				12 Ft					80								
14				13 Ft					103								
15				14 Ft					105								
16				15 Ft					102								
17				16 Ft					92								
18				17 Ft					96								
19				18 Ft					85								
20				19 Ft					42								
21	QC			19 Ft					46								

Data Entered By and Date: _____

FUSRAP Form X-17 (08/19/96)
*DPM units per 100 cm2

2062

Direct Surface and Transferable Contamination Survey

V 1.9

Comments: Horizontal Probe up READINGS in 1ft increments. UNABLE to take ALPHA NOR SMEARS in PIPE.

D 27452

Reference No.:	12900976.XLS
Survey No.:	1290T032
Data Code:	CH-SURV
Grid ID:	BLD6 14
Area:	AREA 20 A EAST
Survey By:	K. TESCH
Survey Date:	10/17/96
Smears Counted By:	
Smear Count Date:	

	DIRECT SURFACE		TRANSFERABLE CONTAMINATION	
Surveyor Sign:	Karl D Tesch		Surveyor Sign:	
	Alpha	Beta-Gamma	Alpha	Beta-Gamma
Scaler Model:	N/A	Ludlum 2221	N/A	N/A
Serial No.:		59970		
Detector:		Ludlum 44-9		
Serial No.:		59141		
Cal Due Date:		3/14/97		
Bkgd CPM:		53		
Efficiency:		0-23		
Area Cor Fact:		0.155	N/A	N/A
Bkgd CT Time:		1		
Smpl CT Time:		1		
Lc (DPM):				

No.	Description	E (x)	N (y)	Ht. (z)	Field Notes	DIRECT SURFACE Alpha Gross CPM	Alpha Smpl DPM*	Alpha STD DEV	Beta-Gamma Gross CPM	Beta-Gamma Smpl DPM*	Beta-Gamma STD DEV	TRANSFERABLE CONTAMINATION Alpha Gross CPM	Alpha Smpl DPM*	Alpha STD DEV	Beta-Gamma Gross CPM	Beta-Gamma Smpl DPM*	Beta-Gamma STD DEV
22	PIPE			20ft					54								
23	↓			21ft					75								
24	↓			22ft					67								
NA									NA								

Data Entered By and Date: _____

FUSRAP Form X-17 (08/19/96)
*DPM units per 100 cm2

FUSRAP DATA TRANSMITTAL

D-25649

TO:
BECHTEL NATIONAL, INC.
FUSRAP EDM SUPERVISOR
C/O FUSRAP PDCC
151 LAFAYETTE DRIVE
OAK RIDGE, TN 37830

MAIL ADDRESS
P.O. BOX 350
OAK RIDGE, TN

FROM:
TMA/EBERLINE
151 LAFAYETTE DRIVE
P.O. BOX 350
OAK RIDGE, TN 37830

14501-191-SC-400

NO. E- 19026
DATE 10-1-96
SITE/WBS# 129
AREA LIN
DATA CODE CH SURV

ITEM NO.	DATE	PAGES	DESCRIPTION
1	7/1/96	3	Direct + Transferable Survey 129DT033

☐ COMPLIANCE SCREENING CHECKLIST ATTACHED?
☐ DATA QUALITY REVIEW CHECKLIST ATTACHED?
☐ SAMPLE RESULTS REVIEW REPORT ATTACHED?
MAJOR REVIEW COMMENTS:

ANALYTICAL LABORATORY DATA (ELECTRONIC DATA, E.G., CH - WATR)		OTHER RADIOLOGICAL DATA (NON-ELECTRONIC DATA, E.G., CH - EQUIP)	
EDM REVIEW BY	DATE	PROJECT TEAM REVIEW BY	DATE
EDM SUPERVISOR	DATE	PROJECT TEAM LEADER	DATE
PROJECT TEAM LEADER	DATE	Lawrence Lacy Baldy	11/23/96

D6649

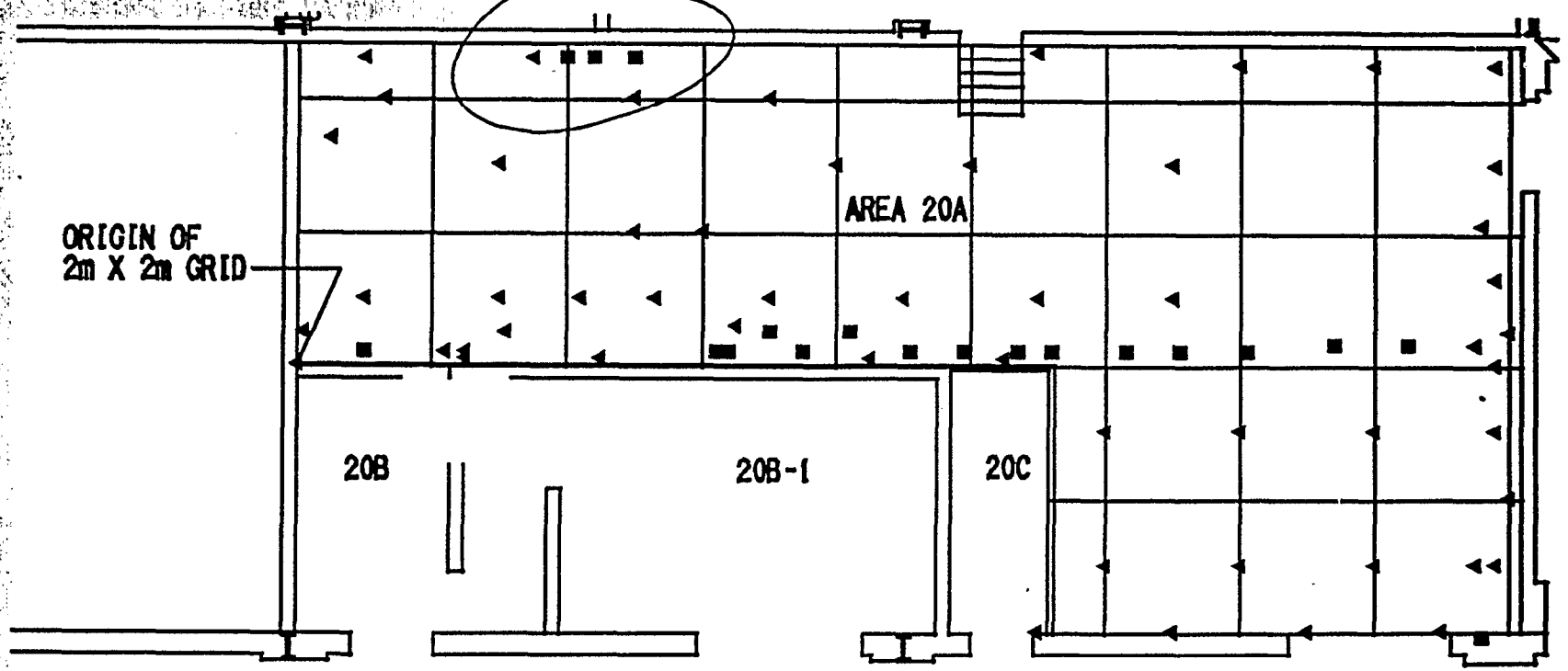
4.100 0217.1

FUSRAP PDCC:
RECEIVED FROM TMA/EBERLINE Bobby Mae DATE 10/1/96
RETURNED TO PDCC _____ DATE _____

FUSRAP-E004 (9/21/93)

20 A East Char Floors

area of survey 12900817



Survey/file #s 12900387, 390, 457, 468, 467, 465

D-2994

Disk No.

FUSRAP DATA TRANSMITTAL

D-26649

TO:
BECHTEL NATIONAL, INC.
FUSRAP EDM SUPERVISOR
C/O FUSRAP PDCC
151 LAFAYETTE DRIVE
OAK RIDGE, TN 37830

MAIL ADDRESS
P.O. BOX 350
OAK RIDGE, TN

FROM:
TMA/EBERLINE
151 LAFAYETTE DRIVE
P.O. BOX 350
OAK RIDGE, TN 37830

14501-191-SC-400

NO. E- 19026
DATE 10-1-96
SITE/WBS# 129
AREA LIN
DATA CODE CH SURV

ITEM NO.	DATE	PAGES	DESCRIPTION
1	7/1/96	3	Direct + Transferable Survey 129DT033

☐ COMPLIANCE SCREENING CHECKLIST ATTACHED?
☐ DATA QUALITY REVIEW CHECKLIST ATTACHED?
☐ SAMPLE RESULTS REVIEW REPORT ATTACHED?

MAJOR REVIEW COMMENTS:

ANALYTICAL LABORATORY DATA (ELECTRONIC DATA, E.G., CH - WATR)		OTHER RADIOLOGICAL DATA (NON-ELECTRONIC DATA, E.G., CH - EQUIP)	
EDM REVIEW BY	DATE	PROJECT TEAM REVIEW BY	DATE
EDM SUPERVISOR	DATE	PROJECT TEAM LEADER	DATE
PROJECT TEAM LEADER	DATE		

D664 9

4.100 0217.1

FUSRAP PDCC:
RECEIVED FROM TMA/EBERLINE Bobby Mae DATE 10/1/96
RETURNED TO PDCC _____ DATE _____

FUSRAP-E004 (9/21/93)

Direct Surface and Transferable Contamination Survey

Comments: *SURVEY OF N. FLOOR, SEE MAP, QC #1 FLOOR

V1.5

Reference No.:	12900817.XLS
Survey No.:	129DT033
Data Code:	CH-SURV
Grid ID:	AREA 20A EAST-F
Area:	BLDG. 14
Survey By:	A. THOMPSON
Survey Date:	07/11/96
Smears Counted By:	
Smear Count Date:	

	DIRECT SURFACE			TRANSFERABLE CONTAMINATION		
Surveyor Sign:				Surveyor Sign:		
	Alpha	Beta-Gamma		Alpha	Beta-Gamma	
Scaler Model:	ESP-2	E-600				
Serial No.:	S7210	S9169				
Detector:	AC-3	SHP-360				
Serial No.:	S7969	S9237				
Cal Due Date:	05/07/97	07/02/97				
Bkgd CPM:	1.0	50.0				
Efficiency:	0.19	0.30				
Area Cor Fact:	0.590	0.155		N/A	N/A	
Bkgd CT Time:	1	1				
Smpl CT Time:	1	1				
Lc (DPM):	21	355				

No.	Description	E (x)	N (y)	Ht. (z)	Field Notes	Gross CPM	Smpl DPM*	STD DEV	Gross CPM	Smpl DPM*	STD DEV	Gross CPM	Smpl DPM*	STD DEV	Gross CPM	Smpl DPM*	STD DEV
1	FLOOR				•	14.0	115	67	1014.0	20731	1375						
2	FLOOR				•	8.0	62	52	288.0	5118	775						
3	FLOOR				•	12.0	97	62	490.0	9462	979						
4	FLOOR				•	10.0	79	57	553.0	10817	1035						
5	FLOOR				•	12.0	97	62	533.0	10387	1018						
6	QC FLOOR				•	12.0	97	62	1022.0	20903	1380						

Reviewed By and Date (RSSS): 7-25-96

Data Entered By and Date: 7-22-96

REVIEWED BY: 9-18-96

FUSRAP Form X-17 (04/24/96)
*DPM units per 100 cm2

D-26649

Direct Surface and Transferable Contamination Survey

Comments: SURVEY OF N. FLOOR E3.0 – E2.0 N48 SEE MAP

V1.5

Reference No.:	1290[illegible]X15
Survey No.:	1290T033
7-22-96 Data Code:	CH RR-SURV
Grid ID:	20A GRID-F
Area:	Bldg 14
Survey By:	A. Thompson
Survey Date:	7-11-96
Smears Counted By:	
Smear Count Date:	

	DIRECT SURFACE						TRANSFERABLE CONTAMINATION					
Surveyor Sign:	Alexis Thompson						Surveyor Sign:					
	Alpha			Beta-Gamma			Alpha			Beta-Gamma		
Scaler Model:	ESP-2			E600								
Serial No.:	S7210			S9169								
Detector:	AC-3			SHP360								
Serial No.:	S7969			S9237								
Cal Due Date:	5-7-97			7-2-97								
Bkgd CPM:	1			50								
Efficiency:	0.192			0.300								
Area Cor Fact:	0.59			0.155			N/A			N/A		
Bkgd CT Time:	1MIN			1MIN								
Smpl CT Time:	1MIN			1MIN								
Lc (DPM):												

No.	Description	E (x)	N (y)	Ht. (z)	Field Notes	Gross CPM	Smpl DPM*	STD DEV	Gross CPM	Smpl DPM*	STD DEV	Gross CPM	Smpl DPM*	STD DEV	Gross CPM	Smpl DPM*	STD DEV
1	FLOOR					14			1014								
2	FLOOR					8			288								
3	FLOOR					12			490								
4	FLOOR					10			553								
5	FLOOR					12			533								
6	QC OF 1					12			1022								

Reviewed By and Date (RSSS): _____

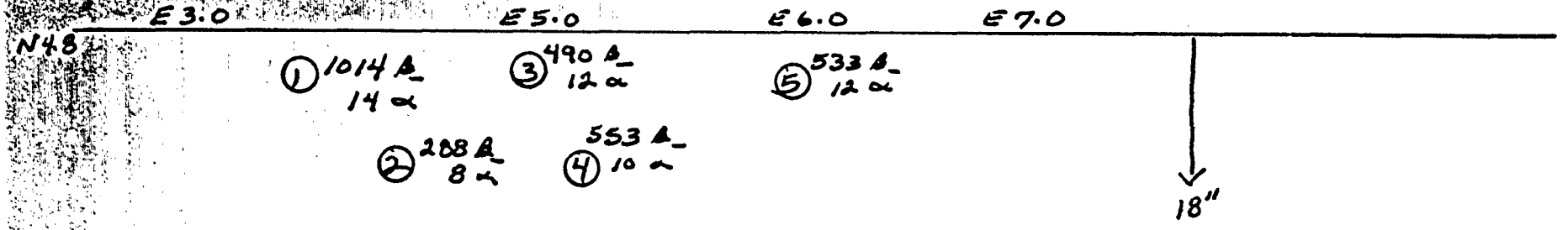
Data Entered By and Date: _____

FUSRAP Form X-17 (04/24/96)
*DPM units per 100 cm2
Page 1 of 1

D-26649

REF. 12900~~65~~9.XLS 817 4852 lm

NT



BLDG 14 AREA 20A EAST
7-11-96 1400
A. THOMPSON

PRIOR TO CHIPPING CONCRETE
ALL READING ARE CPM
DIRECT READINGS ONLY

SHP 360	S9237	7-2-97
E 600	S9169	5-6-97
ESP-2	S7210	5-6-97
NC-3	S7969	5-7-97

D-26649

D-27912

ThermoNUtech

Direct Surface and Transferable Contamination Survey

Comments:

V1.3

Reference No.:	12900457.XLS
Survey No.:	12900457
Data Code:	CH-SURV
Grid ID:	AREA 20A (E)-F
Area:	BLDG. 14
Direct Survey By:	FORD, D. TROUTM
Direct Survey Date:	03/26/96
Transferable Survey By:	, TROUTMAN & SLE
Transferable Survey Date:	3/26-28/96

	DIRECT SURFACE		TRANSFERABLE CONTAMINATION	
Surveyor Sign:			Surveyor Sign:	
	Alpha	Beta-Gamma	Alpha	Beta-Gamma
Scaler Model:	Ludlum 2350	Ludlum 2221		Ludlum 2221
Serial No.:	S7641	S6930		S6925
Detector:	AC-3	LUDLUM 44-9	SAC-4	HP-210
Serial No.:	S7878	S6910	S7923	S7753
Cal Due Date:	07/17/96	3'14'97	07/03/96	08/12/96
Bkgd CPM:	2.0	51.0	0.2	41.0
Efficiency/100:	0.19	0.29	0.31	0.22
Area Cor Fact:	0.590	0.155	N/A	N/A
Bkgd CT Time:	1	1	50	1
Smpl CT Time:	1	1	1	1
Lc (DPM):	30	368	3	67

No.	Description	E (x)	N (y)	Ht. (z)	Field Notes	Gross CPM	Smpl DPM*	STD DEV	Gross CPM	Smpl DPM*	STD DEV	Gross CPM	Smpl DPM*	STD DEV	Gross CPM	Smpl DPM*	STD DEV
1	TRENCH	0.1	0.5	-0.1		9.0	63	59	151.0	2209	615	0.0	<Lc -1	0	43.0	<Lc 9	81
2	TRENCH	1	0.2	-0.1		40.0	343	115	11019.0	242333	4556	4.0	12	13	45.0	<Lc 18	82
3	TRENCH	2.2	0.2	-0.1		9.0	63	59	181.0	2872	660	0.0	<Lc -1	0	30.0	<Lc -49	74
4	TRENCH	6.2	0.2	-0.1		12.0	90	66	836.0	17344	1290	1.0	<Lc 2	6	47.0	<Lc 27	82
5	TRENCH	7.5	0.2	-0.1		15.0	117	73	936.0	19554	1361	1.0	<Lc 2	6	31.0	<Lc -45	75
6	TRENCH	8.2	0.5	-0.1		22.0	180	87	739.0	15201	1217	0.0	<Lc -1	0	38.0	<Lc -13	78
7	TRENCH	11.2	0.2	-0.1		40.0	343	115	811.0	16792	1271	2.0	6	9	42.0	<Lc 4	80
8	TRENCH	12.3	0.2	-0.1		24.0	198	90	755.0	15555	1229	1.0	<Lc 2	6	36.0	<Lc -22	77
9	TRENCH	13.1	0.2	-0.1		17.0	135	77	982.0	20570	1392	1.0	<Lc 2	6	41.0	<Lc 0	80
10	TRENCH	14.1	0.2	-0.1		12.0	90	66	503.0	9987	1019	0.0	<Lc -1	0	37.0	<Lc -18	78
11	TRENCH	15.4	0.3	-0.2		13.0	99	68	6659.0	146001	3547	0.0	<Lc -1	0	48.0	<Lc 31	83
12	TRENCH	16.5	0.3	-0.2		17.0	135	77	514.0	10230	1029	0.0	<Lc -1	0	33.0	<Lc -36	76
13	TRENCH	17.5	0.3	-0.2		6.0	36	50	86.0	773	507	0.0	<Lc -1	0	43.0	<Lc 9	81
14	QC TRENCH	17.5	0.3	-0.2		4.0	<Lc 18	43	91.0	884	516	0.0	<Lc -1	0	45.0	<Lc 18	82

Reviewed by (RSSS): [signature]

* DPM unit[illegible] 100 Sq cm

0-2792

Thermo NUtech

Direct Surface and Transferable Contamination Survey

Comments:

Reference No.:	12900457.XLS
Survey No.:	12900457
Data Code:	CH-SURV
Grid ID:	Area 20 (A&E)
Area:	Bldg 14
Direct Survey By:	R. Ford, D. Trautman
Direct Survey Date:	3-26-96
Transferable Survey By:	R. Ford, D. Trautman, C. Clemons
Transferable Survey Date:	3-26-96 3-28-96

	DIRECT SURFACE						TRANSFERABLE CONTAMINATION					
Surveyor Sign:	Robert Ford David Trautman						Robert Ford David Trautman					
	Alpha			Beta-Gamma			Alpha			Beta-Gamma		
Scaler Model:	Ludlum 2350			Ludlum 2221						Ludlum 2221		
Serial No.:	57641			56930						56925		
Detector:	AC-3			~~56910~~ Ludlum 44-9			SAC-4			HP210		
Serial No.:	57878			56910			57923			57753		
Cal Due Date:	7-17-96			3-14-97			7.3.96			8.12.96		
Bkgd CPM:	2			51			0.24			41		
Efficiency/100:	0.188			0.292			0.313			0.223		
Area Cor Fact:	0.59			0.155			NA			NA		
Bkgd CT Time:	1min			1min			50min			1min		
Smpl CT Time:	1min			1min			1min			1min		
Lc (DPM):												

No.	Description	E (x)	N (y)	Ht. (z)	Field Notes	Gross CPM	Smpl DPM*	STD DEV	Gross CPM	Smpl DPM*	STD DEV	Gross CPM	Smpl DPM*	STD DEV	Gross CPM	Smpl DPM*	STD DEV
1	Trench	0.1	0.5	-0.1		9			151			0			43		
2		1.0	0.2	-0.1		40			11019			4			45		
3		2.2	0.2	-0.1		9			181			0			30		
4		6.2	0.2	-0.1		12			836			1			47		
5		7.5	0.2	-0.1		15			936			1			31		
6		8.2	0.5	-0.1		22			739			0			38		
7		11.2	0.2	-0.1		40			811			2			42		
8		12.3	0.2	-0.1		24			755			1			36		
9		13.1	0.2	-0.1		17			982			1			41		
10		14.1	0.2	-0.1		12			503			0			37		
11		15.4	0.3	-0.2		13			659			0			48		
12		16.5	0.3	-0.2		17			514			0			33		
13		17.5	0.3	-0.2		6			86			0			43		
14	QC of #13	17.5	0.3	-0.2		4			91			0			45		

No further Entries

3-26-96

Reviewed By (RSSS):_____

*DPM units per 100 Sq cm

D-2712

Thermo NUtech

Direct Surface and Transferable Contamination Survey

Comments:

V1.4

Reference No.:	12900467.xls
Survey No.:	12900467
Data Code:	CH-SURV
Grid ID:	Area 20A EAST-F
Area:	Bldg. 14
Survey By:	D. Troutman
Survey Date:	03/28/96
Smears Coun . By:	C. Slemons
Smear Count Date:	04/04/96

	DIRECT SURFACE		TRANSFERABLE CONTAMINATION	
Surveyor Sign:			Surveyor Sign:	
	Alpha	Beta-Gamma	Alpha	Beta-Gamma
Scaler Model:	Ludlum 2350	Ludlum 2221		Ludlum 2221
Serial No.:	S7638	S6928		S6925
Detector:	AC-3	Ludlum 44-9	SAC-4	HP-210
Serial No.:	S7969	S9141	S7923	S7753
Cal Due Date:	05/02/96	08/17/96	07/03/96	08/12/96
Bkgd CPM:	3.0	60.0	0.2	45.0
Efficiency:	0.19	0.23	0.31	0.22
Area Cor Fact:	0.590	0.155	N/A	N/A
Bkgd CT Time:	1	1	50	1
Smpl CT Time:	1	1	1	1
Lc (DPM):	36	511	2	70

No.	Description	E (x)	N (y)	Ht. (z)	Field Notes	Gross CPM	Smpl DPM*	STD DEV	Gross CPM	Smpl DPM*	STD DEV	Gross CPM	Smpl DPM*	STD DEV	Gross CPM	Smpl DPM*	STD DEV
1	Trench	2.5	0.2	-0.1		2.0	<Lc -9	39	214.0	4358	918	0.0	<Lc -1	0	41.0	<Lc -18	82
2	Trench	3.1	0.5	-0.1		3.0	<Lc 0	43	146.0	2434	796	0.0	<Lc -1	0	50.0	<Lc 22	86
3	Trench	4.2	1	-0.3		1.0	<Lc -18	35	53.0	<Lc -198	590						
4	Trench	5.3	1	-0.3		3.0	<Lc 0	43	56.0	<Lc -113	597						
5	Trench	6.4	0.2	-0.2		18.0	133	80	1006.0	26769	1811	1.0	3	6	49.0	<Lc 18	85
6	Trench	7	0.5	-0.2		22.0	169	87	876.0	23090	1697	2.0	6	9	48.0	<Lc 13	85
7	Trench	9.1	0.2	-0.2		10.0	62	63	897.0	23684	1716	0.0	<Lc -1	0	38.0	<Lc -31	80
8	Trench	9.9	0.2	-0.2		15.0	106	74	869.0	22892	1690	0.0	<Lc -1	0	54.0	<Lc 40	87
9	Trench	10.7	0.2	-0.2		20.0	151	83	1072.0	28636	1866	0.0	<Lc -1	0	43.0	<Lc -9	82
10	Trench	18	0.5	-0.2		3.0	<Lc 0	43	59.0	<Lc -28	605						
11	QC Trench	18	0.5	-0.2		3.0	<Lc 0	43	65.0	<Lc 141	620						

Reviewed (RSSS): [signature]

* DPM units p[illegible]0 Sq cm

P[illegible] of 1

D-27912

Thermo NUtech

Direct Surface and Transferable Contamination Survey

Comments:

Reference No.:	12900467XS
Survey No.:	12900467.1
Data Code:	CH-SURV
Grid ID:	AREA 20A-F
Area:	D&D IN
Direct Survey By:	D. TROUTMAN
Direct Survey Date:	3/28/96
Transferable Survey By:	C. SIEMONS
Transferable Survey Date:	4.4.96

	DIRECT SURFACE						TRANSFERABLE CONTAMINATION					
Surveyor Sign:	David Troutman						Surveyor Sign: C Siemons					
	Alpha			Beta-Gamma			Alpha			Beta-Gamma		
Scaler Model:	L-2350			L-2221						Ud-2221		
Serial No.:	S 76388			S 69128						S16923		
Detector:	AC-3			L-44-9			SAC-4			HP210		
Serial No.:	S 7969			S 9141			S7923			S7753		
Cal Due Date:	5/2/96			8/17/96			7.3.96			8.12.96		
Bkgd CPM:	3			60			0.2			45		
Efficiency/100:	0.191			0.228			0.308			0.223		
Area Cor Fact:	0.590			0.155			NA			NA		
Bkgd CT Time:	1 MIN			1 MIN			50 MIN			1 MIN		
Smpl CT Time:	1 MIN			1 MIN			1 MIN			1 MIN		
Lc (DPM):												

No.	Description	E (x)	N (y)	Ht. (z)	Field Notes	Gross CPM	Smpl DPM*	STD DEV	Gross CPM	Smpl DPM*	STD DEV	Gross CPM	Smpl DPM*	STD DEV	Gross CPM	Smpl DPM*	STD DEV
1	TRENCH	2.5	0.2	-0.1		2			214			0			41		
2		3.1	0.5	-0.1		3			146			0			50		
3		4.2	1	-0.3		1			53								
4		5.3	1	-0.3		3			56								
5		5.4	0.2	-0.2		18			1006			1			49		
6		7	0.5	-0.2		22			876			2			48		
7		9.1	0.2	-0.2		10			847			0			38		
8		9.9	0.2	-0.2		15			869			0			54		
9		10.7	0.2	-0.2		20			1072			0			43		
10		18	0.5	-0.2		3			59								
11	QC OF #10	18	0.5	-0.2		3			65								

NO FURTHER ENTRIES

3/28/96 EOT

Reviewed By (RSSS):

*DPM units per 100 Sq cm

D-27912

Thermo NUtech

Direct Surface and Transferable Contamination Survey

Comments:

V1.4

Reference No.:	12900468.XLS
Survey No.:	12900468
Data Code:	CH-SURV
Grid ID:	Area 20A EAST-F
Area:	Bldg. 14
Survey By:	D. Troutman
Survey Date:	03/28/96
Smears Col[illegible] By:	C. Slemons
Smear Count Date:	04/04/96

	DIRECT SURFACE		TRANSFERABLE CONTAMINATION	
Surveyor Sign:			Surveyor Sign:	
	Alpha	Beta-Gamma	Alpha	Beta-Gamma
Scaler Model:	Ludlum 2350	Ludlum 2221		
Serial No.:	S7638	S6928		36925
Detector:	AC-3	Ludlum 44-9	SAC-4	HP-210
Serial No.:	S7969	S9141	S7923	S7753
Cal Due Date:	05/02/96	08/17/96	07/03/96	08/12/96
Bkgd CPM:	3.0	60.0	0.2	45.0
Efficiency:	0.19	0.23	0.31	0.22
Area Cor Fact:	0.590	0.155	N/A	N/A
Bkgd CT Time:	1	1	50	1
Smpl CT Time:	1	1	1	1
Lc (DPM):	36	511	2	70

No.	Description	E (x)	N (y)	Ht. (z)	Field Notes	Gross CPM	Smpl DPM*	STD DEV	Gross CPM	Smpl DPM*	STD DEV	Gross CPM	Smpl DPM*	STD DEV	Gross CPM	Smpl DPM*	STD DEV
1	Floor	14	4.5	0		1.0	<Lc -18	35	72.0	<Lc 340	637						
2	Floor	16	4.5	0		1.0	<Lc -18	35	67.0	<Lc 198	625						
3	Floor	17.8	4.5	0		5.0	<Lc 18	49	72.0	<Lc 340	637						
4	Floor	17.8	3	0		6.0	<Lc 27	52	58.0	<Lc -57	602						
5	Floor	17.6	2.1	0		3.0	<Lc 0	43	192.0	3735	880	0.0	<Lc -1	0	47.0	<Lc 9	84
6	Floor	17.8	1.3	0		1.0	<Lc -18	35	171.0	3141	843	1.0	3	6	48.0	<Lc 13	85
7	Floor	17.8	0	0		1.0	<Lc -18	35	91.0	877	682	0.0	<Lc -1	0	40.0	<Lc -22	81
8	Floor	17.8	-1	0		2.0	<Lc -9	39	75.0	<Lc 424	644						
9	Floor	17.8	-3	0		4.0	<Lc 9	46	80.0	566	656						
10	Floor	17.6	-4.1	0		53.0	444	130	811.0	21251	1637	1.0	3	6	31.0	<Lc -63	77
11	Floor	1.3	4	0		1.0	<Lc -18	35	70.0	<Lc 283	632						
12	Floor	1	4.6	0		2.0	<Lc -9	39	67.0	<Lc 198	625						
13	Floor	0.5	3.4	0		1.0	<Lc -18	35	43.0	<Lc -481	563						
14	Floor	4	4.6	0		5.0	<Lc 18	49	1150.0	30043	1929	0.0	<Lc -1	0	50.0	<Lc 22	86
15	QC Floor	4	4.6	0		4.0	<Lc 9	46	1046.0	27900	1844	1.0	3	6	41.0	<Lc -1*	82

Reviewe[illegible] (RSSS): Ray L MD

* DPM units p[illegible]00 Sq cm

P[illegible] of 1

D-27912

Thermo NUtech

Direct Surface and Transferable Contamination Survey

Reference No.:	12900468.XLS
Survey No.:	12900468
Data Code:	CH-SURV
Grid ID:	AREA TO A-F
Area:	BLDG 14
Direct Survey By:	D. TROUTMAN
Direct Survey Date:	3/28/96
Transferable Survey By:	C. Slemons
Transferable Survey Date:	4.4.96

Comments:

	DIRECT SURFACE		TRANSFERABLE CONTAMINATION	
Surveyor Sign:	David Troutman		C Slemons	
	Alpha	Beta-Gamma	Alpha	Beta-Gamma
Scaler Model:	L-2350	L-2221		Lud-2221
Serial No.:	S 7638	S-6928		56925
Detector:	AC-3	L-44-9	SAC-4	HP-210
Serial No.:	S 7969	S 9141	S7923	S7753
Cal Due Date:	5/2/96	8/17/96	~~6-7~~ → 7.3 96	8.12.96
Bkgd CPM:	3	60	~~50~~ ~~308~~ 0.2	45
Efficiency/100:	0.191	0.228	± ~~AA~~ 0.309	0.223
Area Cor Fact:	0.590	0.155	NA	NA
Bkgd CT Time:	1 MIN	1 MIN	50 MIN	1 MIN
Smpl CT Time:	1 MIN	1 MIN	1 MIN	1 MIN
Lc (DPM):				

No.	Description	E (x)	N (y)	Ht. (z)	Field Notes	Gross CPM	Smpl DPM*	STD DEV	Gross CPM	Smpl DPM*	STD DEV	Gross CPM	Smpl DPM*	STD DEV	Gross CPM	Smpl DPM*	STD DEV
1	FLOOR	14	4.5	0		1			72								
2		~~16~~ 14	4.5	0		1			67								
3		17.8	4.5	0		5			72								
4		17.8	~~3~~ 4.5	0		6			58								
5		~~17.6~~ 17.8	2.1	0		3			192			0			47		
6		17.8	1.3	0		1			171			1			48		
7		17.8	0	0		1			91			0			40		
8		17.8	-1	0		2			75								
9		17.8	-3	0		4			80								
10		17.6	-4.1	0		53			611			1			31		
11		1.3	4	0		1			70								
12		1	4.6	0		2			67								
13		0.5	3.4	0		1			43								
14		4	4.6	0		5			1130			0			50		
15	QC OF #14	4	4.6	0		4			1046			1			41		

No Further Entries

3-28-96

Reviewed By (RSSS):

*DPM units per 100 Sq. cm

D27911

Thermo NUtech

Direct Surface and Transferable Contamination Survey

Comments:

V1.4

Reference No.:	12900479.XLS
Survey No.:	12900479
Data Code:	CH-SURV
Grid ID:	AREA 20 B, C-O
Area:	BLDG. 14
Survey By:	R. FORD
Survey Date:	04/10/96
Smears Counted By:	FORD & SLEMONS
Smear Count Date:	4/10-11/96

	DIRECT SURFACE			TRANSFERABLE CONTAMINATION		
Surveyor Sign:						
	Alpha	Beta-Gamma		Alpha	Beta-Gamma	
Scaler Model:		Ludlum 2221			Ludlum 2221	
Serial No.:		S6928			S6925	
Detector:		LUDLUM 44-9		SAC-4	HP-210	
Serial No.:		S6910		S7923	S7753	
Cal Due Date:		03/14/97		07/03/96	08/12/96	
Bkgd CPM:		49.0		0.2	37.0	
Efficiency:		0.29		0.31	0.22	
Area Cor Fact:		0.155		N/A	N/A	
Bkgd CT Time:		1		50	1	
Smpl CT Time:		1		1	1	
Lc (DPM):		361		2	64	

No.	Description	E (x)	N (y)	Ht. (z)	Field Notes	Gross CPM	Smpl DPM*	STD DEV	Gross CPM	Smpl DPM*	STD DEV	Gross CPM	Smpl DPM*	STD DEV	Gross CPM	Smpl DPM*	STD DEV
1	PIPES	8.4	0.3						35.0	<Lc -309	397						
2	PIPES	8.3	1.2						66.0	376	464						
3	PIPES	8.3	3.1						79.0	663	490						
4	PIPES	6.9	2.8						70.0	464	472						
5	PIPES	6	2.1						71.0	486	474						
6	PIPES	7.1	1.2						56.0	<Lc 155	444						
7	PIPES	5.1	1						50.0	<Lc 22	431						
8	PIPES	5	2.2						63.0	<Lc 309	458						
9	PIPES	4.7	3.1						58.0	<Lc 199	448						
10	PIPES	3.4	3						61.0	<Lc 265	454						
11	PIPES	2.9	2						72.0	508	476						
12	PIPES	2.8	0.2						52.0	<Lc 66	435						
13	PIPES	1.5	1						47.0	<Lc -44	424						
14	PIPES	1.7	3						51.0	<Lc 44	433						
15	HEATER-VENT	2.6	2.5						59.0	<Lc 221	450						
16	HEATER-VENT	2.8	3						63.0	<Lc 309	458						
17	HEATER-VENT	2.5	3.5						36.0	<Lc -287	399						
18	I/S VENT	6.9	0.8						47.0	<Lc -44	424						
19	ROUND ELECTRICAL UNIT	6.1	3						2053.0	44278	1985						
20	LIGHT FIXTURE	6.9	1.5						60.0	<Lc 243	452						
21	QC LIGHT FIXTURE	6.9	1.5						67.0	398	468						

Reviewed (RSSS): Ray L MD

* DPM units per 100 Sq cm

Page of 1

D-27911

Thermo NUtech

Direct Surface and Transferable Contamination Survey

Comments: * Overheads

Reference No.:	12900479.XLS
Survey No.:	12900479
Data Code:	
Grid ID:	Area 20-B,C - MO
Area:	Bldg 14
Direct Survey By:	R. Ford
Direct Survey Date:	4-10-96
Transferable Survey By:	R Ford / C. Simmons
Transferable Survey Date:	4-10-96 / 4.11.96

	DIRECT SURFACE			TRANSFERABLE CONTAMINATION		
Surveyor Sign:	R Ford			R Ford / C Simmons		
	Alpha			Alpha		
Scaler Model:		Ludlum 2221			Ludlum 2221	
Serial No.:		S6928			S6925	
Detector:		Ludlum 44-9		SAC-4	HP-210	
Serial No.:	N	S6910		S7923	S7753	
Cal Due Date:		3-14-97		7-3-96	7-12-96	
Bkgd CPM:	A	49		0.2	37	
Efficiency/100:		0.292		0.308	0.223	
Area Cor Fact:		0.155		NA	NA	
Bkgd CT Time:		1 min		50 MIN	1 MIN	
Smpl CT Time:		1 min		1 MIN	1 MIN	
Lc (DPM):						

No.	Description	E (x)	N (y)	Hl. (z)	Field Notes	Gross CPM	Smpl DPM*	STD DEV	Gross CPM	Smpl DPM*	STD DEV	Gross CPM	Smpl DPM*	STD DEV	Gross CPM	Smpl DPM*	STD DEV
1	Pipes	8.4	0.3		*				35								
2		8.3	1.2						66								
3		8.3	3.1						79								
4		6.9	2.8						70								
5		6.0	2.1						71								
6		7.1	1.2						56								
7		5.1	1.0						50								
8		5.0	2.2						63								
9		4.7	3.1						58								
10		3.4	3.0						61								
11		2.9	2.0						72								
12		2.8	0.2						52								
13		1.5	1.0						47								
14		1.7	3.0						51								
15	Heater - Vent	2.6	2.5						59								
16		2.8	3.0						63								
17		2.5	3.5						36								
18	J/S Vent	6.9	0.8						47								
19	Round Electrical Unit	6.1	3.0						2053			0			42		
20	Light Fixture	6.9	1.5						60								
21	QC #20	6.9	1.5						67								

Reviewed By (RSSO):

D-2911

ThermoNUtech

Direct Surface and Transferable Contamination Survey

Comments:

V1.4

Reference No.:	12900480.XLS
Survey No.:	12900480
Data Code:	CH-SURV
Grid ID:	AREA 20 B & C-W
Area:	BLDG. 14
Survey By:	FORD
Survey Date:	04/10/96
Smears Counted By:	FORD & SLEMONS
Smear Count Date:	4/10-11/96

	DIRECT SURFACE		TRANSFERABLE CONTAMINATION	
Surveyor Sign:			Surveyor Sign:	
	Alpha	Beta-Gamma	Alpha	Beta-Gamma
Scaler Model:	Ludlum 2350	Ludlum 2221		Ludlum 2221
Serial No.:	S7640	S6930		S6925
Detector:	AC-3	LUDLUM 44-9	SAC-4	HP-210
Serial No.:	S9012	S6914	S7923	S7753
Cal Due Date:	07/04/96	03/14/97	07/03/96	08/12/96
Bkgd CPM:	4.0	52.0	0.2	37.0
Efficiency:	0.20	0.22	0.31	0.22
Area Cor Fact:	0.590	0.155	N/A	N/A
Bkgd CT Time:	1	1	50	1
Smpl CT Time:	1	1	1	1
Lc (DPM):	40	498	2	64

No.	Description	E (x)	N (y)	Ht (z)	Field Notes	Gross CPM	Smpl DPM*	STD DEV	Gross CPM	Smpl DPM*	STD DEV	Gross CPM	Smpl DPM*	STD DEV	Gross CPM	Smpl DPM*	STD DEV
1	WALL	9.5	0.1	1.3		7.0	<Lc 26	56	89.0	1095	689	0.0	<Lc -1	0	42.0	<Lc 22	78
2	WALL	9.5	2	0.5		4.0	<Lc 0	47	43.0	<Lc -266	565						
3	WALL	9.5	3.8	0.6		5.0	<Lc 9	50	43.0	<Lc -266	565						
4	WALL	10.2	4.3	1.7		5.0	<Lc 9	50	38.0	<Lc -414	550						
5	WALL	10.85	4	0.7		12.0	68	67	24.0	<Lc -829	506						
6	WALL	10.85	2	1.5		18.0	120	79	35.0	<Lc -503	541						
7	WALL	10.85	0.4	0.8		10.0	51	63	40.0	<Lc -355	556						
8	WALL	9.7	0	1.6		5.0	<Lc 9	50	34.0	<Lc -533	538						
9	ELECTRICAL BOX	9.6	0.3	0.8		2.0	<Lc -17	41	47.0	<Lc -148	577						
10	ELECTRICAL BOX	9.6	1.8	1.39		7.0	<Lc 26	56	1748.0	50192	2461	0.0	<Lc -1	0	46.0	<Lc 40	80
11	ELECTRICAL BOX	9.6	1.75	1.76		5.0	<Lc 9	50	571.0	15360	1448	0.0	<Lc -1	0	37.0	<Lc 0	76
12	ELECTRICAL BOX	9.65	1.9	2.12		3.0	<Lc -9	44	1366.0	38887	2184	0.0	<Lc -1	0	52.0	67	83
13	ELECTRICAL BOX	9.75	3.7	1.4		7.0	<Lc 26	56	25.0	<Lc -799	509						
14	CEILING	9.7	0.5			4.0	<Lc 0	47	38.0	<Lc -414	550						
15	CEILING	9.7	2.5			6.0	<Lc 17	53	41.0	<Lc -326	559						
16	CEILING	9.7	4.1			5.0	<Lc 9	50	48.0	<Lc -118	580						
17	QC CEILING	9.7	4.1			7.0	<Lc 26	56	37.0	<Lc -444	547						

Reviewed (RSSS): Roger MD

* DPM units per 100 Sq cm

Page 1 of 1

D-27911

Thermo NUtech

Direct Surface and Transferable Contamination Survey

Reference No.:	12900480XLS
4-12-96 cm Survey No.:	129~~DD~~00480
Data Code:	
Grid ID:	Area 20-66 - W
Area:	Bldg 14
Direct Survey By:	L.Ford
Direct Survey Date:	4-11-96
Transferable Survey By:	L.Ford / C Clemons
Transferable Survey Date:	4-11-96 / 4.11.96

Comments:

	DIRECT SURFACE						TRANSFERABLE CONTAMINATION					
Surveyor Sign:	Alpha			Beta-Gamma			Surveyor Sign:	Alpha			Beta-Gamma	
	Lud 2350			Lud 2221							Ludlum 2221	
Serial No.:	~~5902~~ S76Yo ~~XF4-11-96~~			S69230 ~~XF4-11-96~~							S6923	
Detector:	AC-3			Lud 44-9				SAC-4			HP 210	
Serial No.:	S902			S6914				S7923			S7753	
Cal Due Date:	~~3-14-97~~ 7-4-96			3-14-97				7.3.96			8.12.96	
Bkgd CPM:	4 ~~XF4-11-96~~			52				0.2			37	
Efficiency/100:	0.198			0.218				0.308			0.223	
Area Cor Fact:	0.59			0.155				NA			NA	
Bkgd CT Time:	1min			1min				50 min			1 min	
Smpl CT Time:	1min			1min				1 min			1 min	
Lc (DPM):												

No.	Description	E (x)	N (y)	HL (z)	Field Notes	Gross CPM	Smpl DPM*	STD DEV	Gross CPM	Smpl DPM*	STD DEV	Gross CPM	Smpl DPM*	STD DEV	Gross CPM	Smpl DPM*	STD DEV
1	Wall	9.5	0.1	1.3		7			89			0			42		
2		9.5	2.0	0.5		4			43								
3		9.5	3.8	0.6		5			43								
4		10.2	4.3	1.7		5			38								
5		10.85	4.0	0.7		12			24								
6		10.85	2.0	1.5		18			35								
7		10.85	0.4	0.8		10			40								
8	↓	9.7	0.0	1.6		5			34								
9	Electrical Box	9.6	0.3	0.8		2			47								
10		9.6	1.8	1.39		7			1748			0			46		
11		9.6	1.75	1.76		5			571			0			37		
12	↓	9.65	1.9	2.12		3			1366			0			52		
13	Electrical Box	9.75	3.7	1.4		7			25								
14	Ceiling	9.7	0.5			4			38								
15		9.7	2.5			6			41								
16	↓	9.7	4.1			5			48								
17	QC #16	9.7	4.1			7			37								

No further Entries 4-11-96

FUSRAP DATA TRANSMITTAL D-27452

TO:
BECHTEL NATIONAL, INC.
FUSRAP EDM SUPERVISOR
C/O FUSRAP PDCC
151 LAFAYETTE DRIVE
OAK RIDGE, TN 37830

MAIL ADDRESS
P.O. BOX 350
OAK RIDGE, TN

FROM:
TMA/EBERLINE
151 LAFAYETTE DRIVE
P.O. BOX 350
OAK RIDGE, TN 37830

14501-191-SC-400

NO. 596-039
DATE 11/18/96
SITE/WBS# 129
AREA Prax Air
DATA CODE CH-SURV

ITEM NO.	DATE	PAGES	DESCRIPTION
1	10/17/96	4	Area 20A, East F 129 DT 032 - CH-SURV QC#20 PIPE, PIPE SURVEY.
2	10/17/96	4	Same as item 1 11/18/96
2	10/17/96	4	Same as #1. 129 DT 032 - CH-SURV
3	10/14/96	3	QC#3, I-Beam 158 DT 001 CH-SURV
4	10/10/96	3	QC#6 ELB 158 DT 001 RM 102F CH-SURV
5	10/08/96	3	QC#2, I-Beam 158 DT 001 CH-SURV BLD 401 CH-SURV
6	10/09/96	3	QC#4, Top of Blower RM 203-F 158 DT 002 RM 203-F CH-SURV
7	10/10/96	3	QC#4 158 DT 001 RM 115 BLD 401 CH-SURV

These items placed on 596-0119, NFS/158, NK

☐ COMPLIANCE SCREENING CHECKLIST ATTACHED?
☐ DATA QUALITY REVIEW CHECKLIST ATTACHED?
☐ SAMPLE RESULTS REVIEW REPORT ATTACHED?

MAJOR REVIEW COMMENTS:

Bldg 14, Area 20A East
subslab pipe survey (interior)
- drain pipe leading to sewer,
(plugged & backfilled after survey)

ANALYTICAL LABORATORY DATA (ELECTRONIC DATA, E.G., CH - WATR)		OTHER RADIOLOGICAL DATA (NON-ELECTRONIC DATA, E.G., CH - EQUIP)	
EDM REVIEW BY	DATE	PROJECT TEAM REVIEW BY Jim Artale	DATE 12/18/96
EDM SUPERVISOR	DATE	PROJECT TEAM LEADER Lawrence Lacy Bailey	DATE 12/19/96
PROJECT TEAM LEADER	DATE		

4.100 0217.1

27452

FUSRAP PDCC: Kristi Smithka 11-18-96

RECEIVED FROM TMA/EBERLINE _____ DATE _____

RETURNED TO PDCC _____ DATE _____

FUSRAP-E004 (9/21/93)

FUSRAP DATA TRANSMITTAL D-27452

TO:
BECHTeL NATIONAL, INC.
FUSRAP EDM SUPERVISOR
C/O FUSRAP PDCC
151 LAFAYETTE DRIVE
OAK RIDGE, TN 37830

FROM:
TMA/EBERLINE
151 LAFAYETTE DRIVE
P.O. BOX 350
OAK RIDGE, TN 37830

MAIL ADDRESS
P.O. BOX 350
OAK RIDGE, TN

14501-191-SC-400

NO. 596-039
DATE 11/18/96
SITE/WBS# 129
AREA Prax Air
DATA CODE CH-SURV

ITEM NO.	DATE	PAGES	DESCRIPTION
1	10/17/96	4	Area 20A, East F 129DT032-CH-SURV QC#20 PIPE, PIPE SURVEY.
2	10/17/96	4	~~Duplicate~~ 11/18/96
2	10/17/96	4	Same as #1. 129DT032-CH-SURV
3	10/14/96	3	QC#3, I-Beam 158DT001 CH-SURV
4	10/10/96	3	QC#6 FLR 158DT001 RM102F CH-SURV
5	10/08/96	3	QC#2, I-Beam 158DT001 CH-SURV BLD401 CH-SURV
6	10/09/96	3	QC#4, Top & Blower RM203-F 158DT002 RM203-F CH-SURV
7	10/10/96	3	QC#4 158DT001 RM115 BLD401 CH-SURV

☐ COMPLIANCE SCREENING CHECKLIST ATTACHED?
☐ DATA QUALITY REVIEW CHECKLIST ATTACHED?
☐ SAMPLE RESULTS REVIEW REPORT ATTACHED?

MAJOR REVIEW COMMENTS:

ANALYTICAL LABORATORY DATA (ELECTRONIC DATA, E.G.; CH - WATR)		OTHER RADIOLOGICAL DATA (NON-ELECTRONIC DATA, E.G., CH - EQUIP)	
EDM REVIEW BY	DATE	PROJECT TEAM REVIEW BY	DATE
EDM SUPERVISOR	DATE	PROJECT TEAM LEADER	DATE
PROJECT TEAM LEADER	DATE		

4.100.0217.1

27452

FUSRAP PDCC: Kristi Smith 11-18-96

RECEIVED FROM TMA/EBERLINE _____ DATE _____

RETURNED TO PDCC _____ DATE _____

FUSRAP-E004 (9/21/93)

D-27452

Direct Surface and Transferable Contamination Survey

Comments: *QC #20 PIPE, PROBE FACING DN., HORIZONTAL READINGS AT 1 FT. INCREMTS, UNABLE TO TAKE ALPHA NOR SMEARS IN FI V 1.0

Reference No.:	12900975.XLS
Survey No.:	129DT032
Data Code:	CH-SURV
Grid ID:	AREA 20A EAST-F
Area:	BLDG. 14
Survey By:	K. TESCH
Survey Date:	10/17/96
Smears Counted By:	
Smear Count Date:	

	DIRECT SURFACE		TRANSFERABLE CONTAMINATION	
Surveyor Sign:			Surveyor Sign:	
	Alpha	Beta-Gamma	Alpha	Beta-Gamma
Scaler Model:		Ludlum 2221		
Serial No.:		S9970		
Detector:		LUDLUM 44-9		
Serial No.:		S9141		
Cal Due Date:		03/14/97		
Bkgd CPM:		53.0		
Efficiency:		0.23		
Area Cor Fact:		0.155	N/A	N/A
Bkgd CT Time:		1		
Smpl CT Time:		1		
Lc (DPM):		477		

No.	Description	E (x)	N (y)	Ht. (z)	Field Notes	Gross CPM	Smpl DPM*	STD DEV	Gross CPM	Smpl DPM*	STD DEV	Gross CPM	Smpl DPM*	STD DEV	Gross CPM	Smpl DPM*	STD DEV
1	PIPE			0					337.0	7966	1086						
2	PIPE			1 FT.					334.0	7882	1082						
3	PIPE			2 FT.					243.0	5330	946						
4	PIPE			3 FT.					288.0	6592	1015						
5	PIPE			4 FT.					322.0	7546	1065						
6	PIPE			5 FT.					325.0	7630	1069						
7	PIPE			6 FT.					441.0	10884	1222						
8	PIPE			7 FT.					554.0	16858	1462						
9	PIPE			8 FT.					809.0	21206	1614						
10	PIPE			9 FT.					383.0	9257	1148						
11	PIPE			10 FT.					1354.0	36494	2062						
12	PIPE			11 FT.					897.0	23675	1695						
13	PIPE			12 FT.					1518.0	41094	2179						
14	PIPE			13 FT					858.0	22581	1659						
15	PIPE			14 FT.					1355.0	36522	2063						
16	PIPE			15 FT.					1070.0	28527	1842						
17	PIPE			16 FT.					751.0	19579	1559						
18	PIPE			17 FT.					386.0	9341	1152						
19	PIPE			18 FT.					1008.0	26788	1791						
20	PIPE			19 FT.					103.0	1403	687						
21	QC PIPE			19 FT.					99.0	1290	678						

Data Entered By and Date: Linda Tomlin 10-17-96

Reviewed By and Date(RSSS): [signature] 10-17-96

Reviewed By and Date (ORPO): [signature] 11/14/96

FUSRAP Form X-17 (08/19/96)
*DPM units per 100 cm2

D-27452

Direct Surface and Transferable Contamination Survey

Comments: ...20 PIPE, PROBE FACING DN., HORIZONTAL READINGS AT 1 FT. INCREMTS, UNABLE TO TAKE ALPHA NOR SMEARS IN PI V1.0

Reference No.:	12900975.XLS
Survey No.:	129DT032
Data Code:	CH-SURV
Grid ID:	AREA 20A EAST-F
Area:	BLDG. 14
Survey By:	K. TESCH
Survey Date:	10/17/96
Smears Counted By:	
Smear Count Date:	

	DIRECT SURFACE		TRANSFERABLE CONTAMINATION
Surveyor Sign:			Surveyor Sign:
	Alpha	Beta-Gamma	Alpha / Beta-Gamma
Scaler Model:		Ludlum 2221	
Serial No.:		S9970	
Detector:		LUDLUM 44-9	
Serial No.:		S9141	
Cal Due Date:		03/14/97	
Bkgd CPM:		53.0	
Efficiency:		0.23	
Area Cor Fact:		0.155	N/A / N/A
Bkgd CT Time:		1	
Smpl CT Time:		1	
Lc (DPM):		477	

No.	Description	E (x)	N (y)	Ht. (z)	Field Notes	Direct Surface Alpha: Gross CPM	Alpha: Smpl DPM*	Alpha: STD DEV	Beta-Gamma: Gross CPM	Beta-Gamma: Smpl DPM*	Beta-Gamma: STD DEV	Transferable Alpha: Gross CPM	Alpha: Smpl DPM*	Alpha: STD DEV	Beta-Gamma: Gross CPM	Beta-Gamma: Smpl DPM*	Beta-Gamma: STD DEV
22	PIPE			20 FT.	*				91.0	1066	660						
23	PIPE			21 FT.	*				60.0	<Lc 196	584						
24	PIPE			22 FT.	*				67.0	<Lc 393	602						

Data Entered By and Date: [signature] 10-17-96

Reviewed By and Date(RSSS): [signature] 10-17-96 Reviewed By and Date (ORPO): _____

1 of 2

Direct Surface and Transferable Contamination Survey

Comments: PROBE FACING KT 10/17/96 FACING down. Horizontal readings at 1 foot increments - unable to take Alpha nor smears in pipe. V1.0

Reference No.:	12900975.XLS
Survey No.:	129DT032
Data Code:	CLT-SURV
Grid ID:	BL6 14
10-17-96 LM Area:	AREA 20A EAST
Survey By:	K. Tesch
Survey Date:	10/17/96
Smears Counted By:	
Smear Count Date:	depth

DIRECT SURFACE			TRANSFERABLE CONTAMINATION	
Surveyor Sign: Kar D. Tesch			Surveyor Sign:	
	Alpha	Beta-Gamma	Alpha	Beta-Gamma
Scaler Model:	N/A	Ludlum -2221		N/A
Serial No.:		S9970		
Detector:		Ludlum 44-9		
Serial No.:		S9141		
Cal Due Date:		3/14/97		
Bkgd CPM:		53		
F Efficiency:		0.23		
Area Cor Fact:		0.155	N/A	N/A
Bkgd CT Time:		1		
Smpl CT Time:		1		
Lc (DPM):				

No.	Description	E (x)	N (y)	Ht (z)	Field Notes	Gross CPM	Smpl DPM*	STD DEV	Gross CPM	Smpl DPM*	STD DEV	Gross CPM	Smpl DPM*	STD DEV	Gross CPM	Smpl DPM*	STD DEV
1	Pipe			0	*	NA			337								
2	"			1 Ft					334								
3				2 Ft					243								
4				3 Ft					288								
5				4 Ft					322								
6				5 Ft					325								
7				6 Ft					441								
8				7 Ft					654								
9				8 Ft					809								
10				9 Ft					383								
11				10 Ft					1354								
12				11 Ft					897								
13				12 Ft					1518								
14				13 Ft					858								
15				14 Ft					1355								
16				15 Ft					1070								
17				16 Ft					751								
18				17 Ft					386								
19				18 Ft					1008								
20				19 Ft					103								
21	QC K-20			19 Ft					99								

Data Entered By and Date: _____

FUSRAP Form X-17 (08/19/96)
*DPM units per 100 cm2

Direct Surface and Transferable Contamination Survey

Comments: Probe down Hor: zero for Readings at 1 Ft increments- unable to take Alpha for smears in 7:PE V1.0

Reference No.:	12900PT5.XLS
Survey No.:	12901032
Data Code:	CH-SURV
10-17-96 Grid ID:	BLDG 14
Area:	AREA 20 A EAST
Survey By:	K. Tesch 10/17/96
Survey Date:	K. Tesch
Smears Counted By:	
Smear Count Date:	depth

	DIRECT SURFACE						TRANSFERABLE CONTAMINATION					
Surveyor Sign:	Karl D. Odell						Surveyor Sign:					
	Alpha			Beta-Gamma			Alpha			Beta-Gamma		
Scaler Model:	N/A			Ludlum - 2221			[redacted]			N/A		
Serial No.:				59970								
Detector:				Ludlum 44-9								
Serial No.:				59141								
Cal Due Date:				3/14/97								
Bkgd CPM:				53								
Efficiency:				0.23								
Area Cor Fact:				0.155			N/A			N/A		
Bkgd CT Time:				1								
Smpl CT Time:				1								
Lc (DPM):												

No.	Description	E (x)	N (y)	Ht (z)	10/17/96 Field Notes	Gross CPM	Smpl DPM*	STD DEV	Gross CPM	Smpl DPM*	STD DEV	Gross CPM	Smpl DPM*	STD DEV	Gross CPM	Smpl DPM*	STD DEV
22	PIPE			20 Ft	*	N/A			91								
23	"			21 Ft					60								
24	"			22 Ft					67								
NA																	

Data Entered By and Date: _____

FUSRAP Form X-17 (08/19/96)
*DPM units per 100 cm2

D-27452

Direct Surface and Transferable Contamination Survey

Comments: *QC #20 PIPE, PROBE FACING UP, HORIZONTAL READINGS AT 1 FT. INCREMTS, UNABLE TO TAKE ALPHA NOR SMEARS IN PIP V 1.9

Reference No.:	12900976.XLS
Survey No.:	129DT032
Data Code:	CH-SURV
Grid ID:	AREA 20A EAST-F
Area:	BLDG. 14
Survey By:	K. TESCH
Survey Date:	10/17/96
Smears Counted By:	
Smear Count Date:	

	DIRECT SURFACE		TRANSFERABLE CONTAMINATION
Surveyor Sign:			Surveyor Sign:
	Alpha	Beta-Gamma	Alpha / Beta-Gamma
Scaler Model:		Ludlum 2221	
Serial No.:		S9970	
Detector:		LUDLUM 44-9	
Serial No.:		S9141	
Cal Due Date:		03/14/97	
Bkgd CPM:		53.0	
Efficiency:		0.23	
Area Cor Fact:		0.155	N/A / N/A
Bkgd CT Time:		1	
Smpl CT Time:		1	
Lc (DPM):		477	

No.	Description	E (x)	N (y)	Ht. (z)	Field Notes	Direct Surface Alpha: Gross CPM	Smpl DPM*	STD DEV	Direct Surface Beta-Gamma: Gross CPM	Smpl DPM*	STD DEV	Transferable Contamination Alpha: Gross CPM	Smpl DPM*	STD DEV	Transferable Contamination Beta-Gamma: Gross CPM	Smpl DPM*	STD DEV
1	PIPE			0	*				77.0	673	627						
2	PIPE			1 FT.	*				111.0	1627	704						
3	PIPE			2 FT.	*				86.0	926	646						
4	PIPE			3 FT.	*				94.0	1150	667						
5	PIPE			4 FT.	*				68.0	<Lc 421	605						
6	PIPE			5 FT.	*				69.0	<Lc 449	607						
7	PIPE			6 FT.	*				63.0	<Lc 281	592						
8	PIPE			7 FT.	*				67.0	<Lc 393	602						
9	PIPE			8 FT.	*				81.0	785	636						
10	PIPE			9 FT.	*				86.0	926	648						
11	PIPE			10 FT.	*				82.0	813	639						
12	PIPE			11 FT.	*				90.0	1038	657						
13	PIPE			12 FT.	*				80.0	757	634						
14	PIPE			13 FT	*				103.0	1403	687						
15	PIPE			14 FT.	*				105.0	1459	691						
16	PIPE			15 FT.	*				102.0	1374	684						
17	PIPE			16 FT.	*				92.0	1094	662						
18	PIPE			17 FT.	*				96.0	1206	671						
19	PIPE			18 FT.	*				85.0	898	646						
20	PIPE			19 FT.	*				42.0	<Lc -309	536						
21	QC PIPE			19 FT.	*				46.0	<Lc -196	547						

Data Entered By and Date: Linda Tesch 10.17.96

Reviewed By and Date(RSSS): [signature] 10.17.96 Reviewed By and Date (ORPO): [signature] 11/18/96

FUSRAP Form X-17 (08/19/96)
*DPM units per 100 cm2

D-27523 MK

Direct Surface and Transferable Contamination Survey

Comments: *QC #20 PIPE, PROBE FACING UP, HORIZONTAL READINGS AT 1 FT. INCREMTS, UNABLE TO TAKE ALPHA NOR SMEARS IN PIP V1.9

Reference No.:	12900976.XLS
Survey No.:	129DT032
Data Code:	CH-SURV
Grid ID:	AREA 20A EAST-F
Area:	BLDG. 14
Survey By:	K. TESCH
Survey Date:	10/17/96
Smears Counted By:	
Smear Count Date:	

	DIRECT SURFACE			TRANSFERABLE CONTAMINATION		
Surveyor Sign:				Surveyor Sign:		
	Alpha		Beta-Gamma	Alpha		Beta-Gamma
Scaler Model:			Ludlum 2221			
Serial No.:			S9970			
Detector:			LUDLUM 44-9			
Serial No.:			S9141			
Cal Due Date:			03/14/97			
Bkgd CPM:			53.0			
Efficiency:			0.23			
Area Cor Fact:			0.155	N/A		N/A
Bkgd CT Time:			1			
Smpl CT Time:			1			
Lc (DPM):			477			

No.	Description	E (x)	N (y)	Ht. (z)	Field Notes	Gross CPM	Smpl DPM*	STD DEV	Gross CPM	Smpl DPM*	STD DEV	Gross CPM	Smpl DPM*	STD DEV	Gross CPM	Smpl DPM*	STD DEV
22	PIPE			20 FT.	*				54.0	<Lc 28	569						
23	PIPE			21 FT.	*				75.0	617	622						
24	PIPE			22 FT.	*				67.0	<Lc 393	602						

Data Entered By and Date: 10/17/96

Reviewed By and Date(RSSS):

Reviewed By and Date (ORPO): 11/8/96

Direct Surface and Transferable Contamination Survey

Comments: Probe up
Horizontal Readings in 1 ft increments. Unable to take Alpha nor smears in Pipe. VLB

Reference No.:	1040096.VLS	Surveyor Sign:	Karl D. Leech
Survey No.:	1290T033		
Data Code:	SH-SURV		
Grid ID:	BLDG 14		
Area:	AREA 20A EAST		
Survey By:	M. Tesch		
Survey Date:	10/7/96		
Smears Counted By:			
Smear Count Date:			

	DIRECT SURFACE						TRANSFERABLE CONTAMINATION					
	Alpha			Beta-Gamma			Alpha			Beta-Gamma		
Scaler Model:	N/A			Ludlum-2221						N/A		
Serial No.:				59970								
Detector:				Ludlum 44-9								
Serial No.:				59141								
Cal Due Date:				3/14/97								
Bkgd CPM:				53								
Efficiency:				0.23								
Area Cor Fact:				0.155			N/A			N/A		
Bkgd CT Time:				1								
Smpl CT Time:				1								
Lc (DPM):												

No.	Description	E (x)	N (y)	Hz (z)	Field Notes	Gross CPM	Smpl DPM*	STD DEV	Gross CPM	Smpl DPM*	STD DEV	Gross CPM	Smpl DPM*	STD DEV	Gross CPM	Smpl DPM*	STD DEV
1	Pipe			0	*				77								
2	"			1 Ft					111								
3				2 Ft					86								
4				3 Ft					94								
5				4 Ft					68								
6				5 Ft					69								
7				6 Ft					63								
8				7 Ft					69								
9				8 Ft					81								
10				9 Ft					86								
11				10 Ft					82								
12				11 Ft					90								
13				12 Ft					80								
14				13 Ft					103								
15				14 Ft					105								
16				15 Ft					102								
17				16 Ft					92								
18				17 Ft					96								
19				18 Ft					85								
20				19 Ft					42								
21	QC			19 Ft					46								

Data Entered By and Date: _____

FUSRAP Form X-17 (08/19/96)
*DPM units per 100 cm2

2 of 2

Direct Surface and Transferable Contamination Survey

D 27452 RIW

Reference No.:	12900976.ylo
Survey No.:	1290TD032
Data Code:	C#-SURV
Grid ID:	BLD6 14
Area:	AREA 2D A EAST
Survey By:	K. TESCH
Survey Date:	10/17/96
Smears Counted By:	
Smear Count Date:	

Comments: Probe up Horizontal Readings in 1 ft increments. Unable to take Alpha NOR smears in pipe. V1.0

	DIRECT SURFACE		TRANSFERABLE CONTAMINATION	
Surveyor Sign:	Karl Leech			
	Alpha	Beta-Gamma	Alpha	Beta-Gamma
Scaler Model:	NA	Ludlum 2221		NA
Serial No.:		59970		
Detector:		Ludlum 44-9		
Serial No.:		59141		
Cal Due Date:		3/14/97		
Bkgd CPM:		53		
Efficiency:		0.23		
Area Cor Fact:		0.155	N/A	N/A
Bkgd CT Time:		1		
Smpl CT Time:		1		
Lc (DPM):				

No.	Description	E (x)	N (y)	Ht. (z)	Field Notes	Gross CPM	Smpl DPM*	STD DEV	Gross CPM	Smpl DPM*	STD DEV	Gross CPM	Smpl DPM*	STD DEV	Gross CPM	Smpl DPM*	STD DEV
22	PIPE			20ft					54								
23	↓			2.ft					75								
24	↓			22ft					67								
NA									N/A								

Data Entered By and Date: _____

FUSRAP Form X-17 (08/19/96)
*DPM units per 100 cm2